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Behavioral Indicators During a Police Interdiction

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14. ABSTRACT Police officers rely on a variety of verbal and visual behavioral cues to guide their decision making during an encounter. This report specifically focuses on how police officers rely on behavioral cues in their decision-making process. Police officers engage in a cycle of decision making that includes observing their environment, making assessments, predicting what may happen, and taking or planning an action. We found that officers make six different types of assessments and predictions based on visual and verbal cues. These include Demeanor, Compliance, Deceit, Criminality, Flight, and Threat. We also found that police rely more on visual than verbal indicators when making assessments. This report, in combination with the other research conducted under “Just Doesn’t Look Right (JDLR),” creates a foundation for the development of training for teaching law enforcement and security personnel to utilize behavioral indicators in a safe and effective manner. Further research is needed to identify the reliability and validity of the findings documented in this report.					
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LIST OF ABBREVIATIONS AND ACRONYMS

BPD	Boston Police Department
CMPD	Charlotte-Mecklenburg Police Department
FTO	Field Training Officer
HPD	Houston Police Department
JDLR	Just Doesn't Look Right
LACSD	Los Angeles County Sheriff's Department
LVMPD	Las Vegas Metropolitan Police Department
NCSHP	North Carolina State Highway Patrol
NYS DCJS	New York State Division of Criminal Justice Services
OODA	Observing, Orienting, Deciding, Act
RPDM	Recognition Primed Decision Making
SA	Situation Awareness
SHOR	Stimulus-Hypothesis-Option-Response
UIF	Universal Interdiction Framework

PREFACE

Today's military commander recognizes the value of personnel in theater with experience in law enforcement gained from constant interaction with individuals who deceive, defraud, intimidate, and coerce. These personnel build an expertise in discerning the methods used to hide contraband in plain sight and witness the changing tactics, techniques, and procedures used by criminals. This is a lifesaving skill set and once documented, standardized, and validated, can be transitioned to others. Although not a common term in the accepted warfighting lexicon, the idea of discerning "What Just Doesn't Look Right" (JDLR) is an essential survival skill. Operationalizing JDLR, especially within and across cultures, can augment the curriculum being taught to military and law enforcement personnel by documenting and then transferring the essential knowledge employed by those pursuing criminals or insurgents.

A multi-phase project ongoing since 2010, the purpose of the JDLR Project is to identify and articulate indicators of behavior associated with deceit, threat, fear of detection, or the carrying of some form of contraband. Under JDLR, we are documenting these indicators of suspicious behavior based on the extent that a specific person of interest (like someone carrying a firearm) is aware of and interacting with a perceived threat (such as the presence of law enforcement).

The JDLR project has enabled us to identify specific behaviors law enforcement personnel look for, how these behaviors are used in their decision making process, and when these behaviors are perceived to be relevant. This research was derived from the knowledge and experience of police officers employed throughout the United States.

The project team includes law enforcement personnel with extensive experience with the subject matter at both the policy and operational level. Our team identified a number of behavioral indicators on which police officers routinely rely to interpret behavior and established standardized terminology for these behaviors. We also documented how and why police officers make decisions during an interdiction and the types of observations, assessments, and predictions they routinely make. This project facilitates both the transfer of knowledge to inexperienced personnel and serves as an impetus for expanding research to assess the reliability and validity of behavioral indicators of deceit, threat, fear of detection, and the carrying of contraband.

Each phase of the project is described independently below.

JDLR PHASE I

The primary goal of Phase I was the identification of behavioral indicators of deceit, threats, fear of detection, or the carrying of some form of contraband. Available research and documentation on these behavioral indicators is limited. It either focuses on simply articulating specific behaviors or describing various aspects of body language. In Phase I, we focused our efforts on documenting the behaviors indicating that a subject is carrying a handgun or illegal narcotics. We focused our operationalization of suspicious behavior on how an individual carrying these specific items of contraband behave when they are unobserved by a law enforcement (operating in their natural environment), how they behave when law enforcement or a police patrol is present but not watching them, how they behave when that patrol is watching them, and how they behave when initially approached by that patrol.

The findings of Phase I was documented in three reports. These reports include:

- 1) Behavioral Indicators of Illegal and Legal Gun Carrying;
- 2) Behavioral Indicators of Drug Carrying in Open Spaces; and
- 3) Behavioral Indicators of Drug Couriers in Airports.

These reports provide a foundation for our understanding of specific behaviors associated with threat, deceit, fear of detection, and the carrying of contraband.

JDLR PHASE II

The primary goal of Phase II was to identify how behavioral indicators are used during the course of the interplay between a person of interest and the police. The project ventured to understand how police interpret, process, and react to human behavior. Unlike in Phase I, we did not focus solely on persons carrying firearms or drugs because there are jurisdiction-specific legal and use-of-force elements which dictate the dynamics of those encounters. Instead, we concentrated on encounters where the exact motivator of the suspicious behavior was unknown. Focusing on the unknown was necessary because a person may be acting suspiciously for a variety of reasons: they may be in possession of a firearm or illegal drugs, engaged in a criminal act, be wanted by police, have negative attitudes towards law enforcement, or simply be anxious. It is up to the police to make this determination.

To better understand how police use behavioral indicators we conducted a Field Training Officer Interdiction Seminar in October 2013. We invited teams of police officers from throughout the country. The officers participated in a role-playing scenario with experienced police trainers and were subsequently debriefed regarding what they saw and how they made decisions. We learned how the participating officers interpreted the behaviors being exhibited in order to determine their course of action. This effort included the development of a Universal Interdiction Framework (UIF) to both teach and assess the usage of behavioral indicators during an encounter

In Phase II, we also studied how law enforcement personnel develop a baseline of normal behavior in a given environment. The baseline is used to identify behavioral deviations. To understand baselining and ensure the applicability of project research to military personnel operating in a wide variety of environments we conducted a Cultural Translation Seminar in March, 2014. The combined research in both baselining and cultural translation of behaviors indicated the tremendous variation in norms of behavior from one location to another. Based on these findings, we determined there was a need to develop a system or process which operational personnel can utilize to determine the baseline in a variety of contexts and cultural settings.

The findings of Phase II were documented in two reports. These reports include:

1. Behavioral Indicators During a Police Interdiction; and
2. Developing a Culturally Neutral Context Specific Baselining Process.

These reports, in combination with the research conducted in JDLR Phase I, provide a basis for understanding when, why, and how behavioral indicators are used to identify threats, deceit, people carrying contraband, or individuals trying to avoid detection. This research, although preliminary, is tied to police officers decisions to detain, search, use force, or make an arrest. The JDLR Project created a

foundation to develop training for law enforcement, military, and security personnel to utilize behavioral indicators in a safe, legal, and effective manner. Training police and security personnel to interpret and properly react to the behavior of those with whom they are interacting will better prepare them to complete their mission and keep themselves and their compatriots safe.

EXECUTIVE SUMMARY

The focus of the Just Doesn't Look Right (JDLR) Project is to better understand how police officers perceive and assess behavioral indicators of threatening, deceitful, or suspicious behaviors. This research is being conducted with the goal of transferring relevant findings to other military, law enforcement, and security personnel. This knowledge could better prepare them to interpret human behavior and react appropriately and effectively in situations involving threat, deceit, or persons carrying contraband.

Any utilization of behavioral indicators to identify a person who is carrying an item of contraband or attempting to deceive or threaten is not necessarily a straightforward process. Interpretation of human behavior requires an initial assessment of the "normal behavior" of a person, group, or larger environment. There is also an element of subjectivity associated with the utilization of behavioral cues; police officers interpret behavior through the lens of their own unique experiences. Any single behavior is also not necessarily indicative of illicit behavior; rather, these behaviors are cumulative. The baseline, deviations from that baseline, and the perceived behavioral cues are then used in combination to interpret an individual's behavior and provide a context for decision making.

The primary source for this document is a Field Training Officer Interdiction Seminar the AMX Office hosted in October 2013. In this seminar, we sought to learn how the police "read" the behaviors of an individual or individuals and how they interpreted the behaviors being exhibited in order to determine their course of action. As part of this document, we also synthesize a variety of sources, including: attendance at police trainings, available scientific literature, prior research conducted under the auspices of the JDLR Project, and the personal experience of the authors.

In the first stage of the JDLR Project we identified numerous behavioral indicators on which police officers routinely rely to interpret the behavior of those with whom they are interacting. These behavioral indicators include those associated with people carrying firearms, verbal indicators associated with deception, how people act when they are experiencing emotional stressors, and how people act when they are trying to avoid detection by law enforcement or other potential threats. We have also sought to develop standardized terminology to describe these behaviors. While these behavioral indicators need further validation, their usage and relevance have been supported by police officers throughout the United States.

In the current stage of the JDLR Project, we focus on understanding how police interpret behavioral cues and use them in their decision-making process. We found police decision making during an interdiction is iterative and ongoing. Police officers are constantly making observations and assessments regarding the current situation, and predicting what is going to happen next. They are then taking or preparing to take actions based on these observations, assessments, or predictions.

We found that officers make six different types of assessments and predictions. These include *Demeanor*, *Compliance*, *Deceit*, *Criminality*, *Flight*, and *Threat*. In forming these assessments and predictions, officers often rely on combinations of verbal and visual behavioral indicators. Assessments and predictions are also iterative and additive; prior assessments during an encounter are incorporated into later assessments and predictions in that same encounter. We also found that police rely more on visual

than verbal indicators when making assessments. Our findings revealed some combinations of behavioral indicators used in forming assessments and predictions, but also significant variation in the specific behaviors on which officers relied to form these assessments.

To better understand the interdiction process, we developed the Universal Interdiction Framework (UIF). The UIF allows us to understand the standardized sequence of events which occur in any given interdiction.

This report, in combination with the other research conducted under JDLR, creates a foundation for the development of training for teaching law enforcement, military, and security personnel to utilize behavioral indicators in a safe and effective manner. Training these personnel to interpret and properly react to the behavior of those with whom they are interacting will better prepare them to complete their mission and keep themselves and their fellow officers safe.

INTRODUCTION

Today's military commander recognizes the value of personnel in theater with experience in law enforcement gained from constant interaction with individuals who deceive, defraud, intimidate, and coerce. These personnel build an expertise in discerning the methods used to hide contraband in plain sight and witness the changing tactics, techniques, and procedures criminals use. This is a lifesaving skill set and one that, once documented, can be transitioned to others. Although not a common term in the accepted warfighting lexicon, the idea of discerning what "Just Doesn't Look Right" (JDLR) is an essential survival skill. Operationalizing JDLR, especially within and across cultures, can augment the curriculum being taught to military and law enforcement personnel by documenting and then transferring the essential knowledge employed by those pursuing criminals or insurgents.

A multi-phase project ongoing since 2010, the purpose of the JDLR Project is to identify and articulate indicators of suspicious behavior associated with deceit, threat, or the carrying of some form of contraband. Under JDLR, we are studying these indicators of suspicious behavior based on the extent to which a specific person of interest (like someone carrying a firearm) is aware of and interacting with a perceived threat (such as the presence of law enforcement).

In Phase I, we focused our efforts on documenting the behaviors indicating that a subject is carrying guns or illegal narcotics. We focused our operationalization of suspicious behavior on how individuals carrying these specific items of contraband behave when they are unobserved by a law enforcement (operating in their natural environment), how they behave when law enforcement or a police patrol is present but not watching them, how they behave when that patrol is watching them, and how they behave when initially approached by that patrol.

In Phase II, the current phase of the project, we are studying the utilization of behavioral indicators during the course of the interplay between a person of interest and the police. Specifically, the project ventures to understand how police interpret, process, and react to human behavior. This effort involves the identification of new behavioral indicators, how behaviors cluster, how behavioral indicators are used to make decisions, and the context or timing in which these decisions occur.

In the end, a person may be acting suspiciously for a variety of reasons; he may be in possession of a firearm or illegal drugs, engaged in a criminal act, be wanted by police, have negative attitudes towards law enforcement, or simply be anxious. It is up to the police to make this determination. Unlike in Phase I, we do not focus solely on persons carrying firearms or drugs because there are jurisdiction-specific legal and use-of-force elements which dictate the dynamics of those encounters. Instead, we concentrate on encounters where the exact motivator of the suspicious behavior is unknown. We also do not focus on contacts involving vehicles. There are a variety of legal constraints associated with vehicular types of stops that are outside the scope of this research.

For the purposes of this report, we use both the term "police" and "law enforcement" interchangeably to represent law enforcement and the term "subject" to represent the individuals with whom they are interacting. The term subject is used for simplicity and consistency, but could be used to represent any individual of interest. This interaction will be referred to as an "interdiction". We use the

term interdiction purposefully because we are focusing on encounters where police are interacting with the subject for a specific reason. Throughout the initial section of this document we will generally refer to both the police and the subject as a “he” for simplicity and consistency but the subject matter should be relevant to either gender.¹

Any utilization of behavioral indicators to identify a person who is carrying an item of contraband or attempting to deceive or threaten is not necessarily a straightforward or mechanical process. The utilization of visual and verbal cues to interpret human behavior requires an assessment of the normal behavior or baseline of a person, group, or larger environment. There is also an element of subjectivity associated with the utilization of behavioral cues; police officers interpret behavior through the lens of their own unique experiences. Any single behavior is also not necessarily indicative of illicit behavior; rather, these behaviors are cumulative. The baseline and the perceived behavioral cues are then used in combination to interpret an individual’s behavior and provide a context for decision making.

The primary purpose of this report is to describe the findings from the Field Training Officer Interdiction Seminar hosted by the AMX Office in October, 2013 and to synthesize a variety of sources in one document. These sources include input from law enforcement personnel throughout the country, attendance at police trainings, available scientific literature, research conducted in JDLR Phase I, and the personal experience of the authors. The findings presented within this document are generally presented from a practitioner perspective.

The usage of behavioral indicators by law enforcement is an understudied phenomenon. The process that we undertook during the seminar was exploratory and, to the best of our knowledge, has not been done previously. The research conducted under the auspices of the JDLR Project that is contained in this document was subject to some validation through consensus among various Subject Matter Experts (SMEs) and law enforcement personnel. This report is speculative and descriptive in nature and seeks to describe these behaviors and decision making, and should be subject to a comprehensive validation in the future.

¹ It should be noted that all of our subject matter experts are male and that while the research should be gender neutral, some bias may be present in our findings.

FIELD TRAINING OFFICER SEMINAR

The available research on police decision making is focused on a few distinct areas. Some of this research relates to how police officers deal with stressful situations after they occur and the impact these stressful encounters have on their work (Patterson, Chung, & Swan, 2012), health (Franke, Kohut, Russell, Yoo, Ekkekakis, & Ramey, 2010), and family life (Hall, Dollard, Tuckey, Winefield, & Thompson, 2010). Other research in this area focuses on factors that affect the police decision to use force or arrest, but have a focus on such things as the overall demeanor of the subject, race, ethnicity, or the nature of the interaction has on the propensity for using force or arrest (Friedrich, 1980; Kesic, Thomas, & Ogloff, 2012). Research that explores the police use of verbal and visual behavioral cues during the course of encounters with the public generally involve descriptions of the verbal and visual behavioral cues, with limited information available on how and why police use specific behavioral cues (Porter, 2010; Remsberg, 2007; Jacobellis, 2007; Pinnizotto, et al., 2006).

To better understand the police decision-making process and the utilization of behavioral cues, the AMX Office hosted a Field Training Officer Interdiction Seminar (FTO Seminar) in Washington, DC in October, 2013. In policing, knowledge is often passed along through experience and on-the-job training. Field Training Officers (or FTOs) are police personnel that train new police personnel in the field. They are responsible for teaching new police officers how to put the theories learned at the academy into practice on the street. These are individuals who generally have the desire and capability to transfer knowledge and experience to new officers.

We invited police personnel from major urban municipalities from throughout the country to participate in the seminar. These organizations are described in Table 1.

Table 1. FTO Seminar Participants

Participating Agencies
Boston Police Department (BPD)
Charlotte-Mecklenburg Police Department (CMPD)
Houston Police Department (HPD)
Las Vegas Metropolitan Police Department (LVMPD)
Los Angeles County Sheriff's Department (LACSD)
North Carolina State Highway Patrol (NCSHP)

The objective of the FTO Seminar was to study how police officers interpret behavioral cues during an interplay or encounter with specific persons of interest; in essence, to learn how the police identify and assess the behavior of an individual and determine his own course of action. During this event we studied the utilization of behavioral cues and decision making by having attendees participate in role-playing scenarios typical of common police-citizen interactions in an urban environment.

The officers from each department participated in a role-playing scenario with experienced police trainers. The officers were provided only an initial description of the scenario and then had to proceed as they would in a normal police contact. The trainers had predetermined the behaviors they would exhibit

and the general process of how they would behave throughout the scenario and this information was not shared with the participating officers. While the trainers had a general idea about how the scenario would unfold, they improvised based on the natural progression of the scenario and the techniques and tactics used by the officers. The scenarios involved both verbal interaction between the officers and the trainers and movement within the allocated space as the interdiction unfolded.

These role-playing scenarios were held in a large indoor conference room. Each scenario was video-recorded and transcribed. After the scenario was concluded, we debriefed the officers who participated in the scenario so they could explain their thoughts, decision making, and actions during the scenarios. These debriefs were also transcribed. During the debriefing process, our team discussed with participating officers their decision making, actions, and behavioral indicators that occurred using the video recording of the scenario in which they participated. This debriefing process was essential because it allowed us to better understand the thought process which officers had developed to interpret behavior and make decisions. All non-participating officers observed the scenario and we asked them to give their own opinions and perspectives on the interdiction they had witnessed. This discussion was also transcribed.

We conducted seven role-playing scenarios in total. The initial scenario was a training scenario from which attendees could observe and understand the role-playing and participant debrief process. This training scenario involved a single officer from the North Carolina Highway Patrol. The remaining teams of two officers each participated in a single role-playing scenario with the participants from Boston Police Department participating in two scenarios. These scenarios are described in Table 2.

Table 2. Role Playing Scenarios

#	Description
1	While on foot patrol and assigned to a public park during a music festival, 2 males were observed acting suspiciously. The festival contains one large stage with open seating in front surrounded by several food and clothing vendors. The time of day is 1400hrs on a clear warm day. There are approximately 500 people attending of all different ages. The two suspicious males are both wearing large $\frac{3}{4}$ length coats not suited for warm weather, ball caps, and sunglasses. Subject 1 is wearing a back pack and Subject 2 is holding his right forearm close against his right side while walking with a slight disrupted stride. Both males are together and appear to be focusing on the crowd, not on the music stage or vendors. Whenever the subjects observe a police officer walking through the crowd in their vicinity, they quickly move away while paying attention to the officer's activity. Upon approach, but still thirty yards away, they become aware of the police presence and quickly separate and walk in opposite directions.
2	An unknown male (Subject 1) that does not appear to be from the neighborhood, is seen standing on a sidewalk at 0300hrs speaking to another male (Subject 2) that is known to live in the neighborhood. This is a high crime area known for illegal drug sales and prostitution. The area is mixed residential and business that contains a lot of vacant buildings. Both subjects are in front of a vacant house where there are 4 other males sitting on the front porch. Except for Subject 1, all other individuals are known to have criminal records for drug possession and sales. The immediate area is

	dimly lit from surrounding street lights. There are also 3 other males standing directly across the street. Subject 1 and Subject 2 are standing close together and appear to be looking down. Subject 2 is wearing an over-sized shirt and baggy pants with cargo pockets. One of the cargo pockets appears to be slightly bulging. As police approach, someone shouts something that alerts the two subjects. Both look at the officers at the same time, Subject 2 immediately walks to the front porch of the vacant house while Subject 1 continues to stand there. One of the males sitting on the porch stands up and quickly walks down the dark side of the vacant house out of sight.
3	There is a group of approximately 12 people standing in the middle of the road encircled around 2 men. Both males are squared off shouting at each other. One of the males (Subject 1) has blood on his face and the other male (Subject 2) is standing there with clinched fists. The area is residential and the time is 1300hrs. As the officers approach, someone alerts their presence and Subject 2 quickly walks away with 2 other males. The remaining group of people is still standing around Subject 1 with some of them shouting at him.
4	An armed robbery has occurred at a convenience store at approximately 2000hrs. The perpetrator was described as wearing a hooded sweatshirt, a full mask, gloves, dark blue running pants with a white vertical stripe on each leg, and black and white running shoes. He is 5' 11" tall, medium build, and was in possession of a large silver handgun believed to be a revolver. At 2200hrs while on patrol, 2 males are seen leaving a bar located 2 blocks away from the store that was robbed. One of the males matches the physical description and is wearing a tan coat, dark blue running pants with white vertical stripes, and black and white running shoes. Standing in the area of the bar are approximately 5 other people in two separate groups. As soon as the 2 subjects that exited the bar observe police, they immediately stop, do a 180 degree turn, and walk away from the officers.
5	An unknown male is observed walking his dog around the immediate area of a children's day care center while the children are outside playing. The same subject has been seen on other occasions in the same area by police and is exhibiting an abnormal amount of attention toward the children. It is a clear day at 1300hrs with approximately 30 preschool children on the playground accompanied by 1 adult. The playground area is surrounded by a 4 foot fence with an unsecured gate. There are some trees and shrubs outside the playground close to the fence. After walking past the playground for the third time, the male walks his dog over to the fence and stands behind a tree. He then leans around the tree and appears to take a picture of the children with his phone. He immediately looks around, appearing to be concerned if anyone saw him. While scanning the area, he notices police watching him and quickly walks away, placing his phone inside his shirt. The male walks directly to a vehicle parked 50 feet away on the side of the road, which is occupied by another male.
6	A known drug dealer is seen standing in front of a convenience store at 2000hrs. The male subject appears nervous; he continually looks around while rocking back and forth on the balls of his feet. The subject also keeps tapping the outside of his left pants pocket. There are several people entering and exiting the store. It is dark out with limited lighting from the store lights. When the subject notices police watching, he quickly enters the store and remains inside for about 5 minutes. The subject then exits the store with an unknown male and they slowly walk away together.

These scenarios were developed by the project team to represent a variety of typical law enforcement interactions with the public. In all, the data collection process left us with significant data, in the form of both video data and transcripts of the role-playing scenarios, participant debriefs, and observer reviews.

Because this research was exploratory and because of the many different types of data collected in the seminar, we had to engage in a multi-step process to establish an approach to systematically categorize and then analyze the data. First, we conducted an initial review of data we collected in the seminar. Second, realizing the complexity of the task and significant volume of information we collected, we needed to develop a theoretical model based on preexisting research on decision making which would facilitate the systematic cataloging and subsequent analysis of the data. Third, using this theoretical model we catalogued the data to facilitate data analysis. This then allowed us the opportunity to systematically analyze the data and to form a clearer understanding of how behavioral indicators are used in the decision-making process.

POLICE DECISION MAKING

When police officers are interacting with subjects during the course of an interdiction they must make a variety of decisions. These decisions involve processing many different types of information (i.e., verbal, visual, environmental), with an assortment of constraints on decision making (i.e., legal, procedural, tactical) in a potentially high-stress, dangerous, and dynamic environment.

To better understand the decision making of police officers during these situations and to help us interpret the data we collected during the FTO Seminar we explored decision models articulated in the scientific literature. These models were developed to understand decision making in a variety of contexts; many of these models were developed to understand command and control systems in the military (Endsley, 1995; Grant & Kooter, 2005 ; Klein, 2013; Wohl, 1981).

Making a decision is a multi-step process. This process includes the collection of information, reviewing this information, deciding on a course of action, taking action, and then evaluating and responding to the results. Research has studied decisions associated with police-citizen encounters. Specifically, this research has focused on decisions to use force, utilize a firearm, or make an arrest (Friedrich, 1980; Kesic, Thomas, & Ogloff, 2012; Blair et al., 2011; Lewinski and Hudson, 2003). To the best of our knowledge, no research has been identified describing or modeling the repeated and iterative decision-making process by police during an interdiction.

Wohl (1981) identified three types of decisions: unstructured, semi-structured, and structured. Unstructured decisions are those where the dimensions of the problem are not yet understood, and human intuition and judgment are required (Wohl, 1981). An example of an unstructured decision would be the choices an officer makes during an encounter with a potentially threatening individual. Semi-structured decisions are those where neither a human nor an electronic device can be maximally effective and both are needed (Wohl, 1981). An example of a semi-structured decision is when a cashier uses a computer to process a return at a retail establishment. Fully structured decisions are those that can be delegated or automated (Wohl, 1981). An example of a structured decision is the process of watering a lawn where an automated system turns the sprinklers on and off based on the time of day and other requirements. The problem being examined for this research is unstructured decision making in a dynamic environment.

There are a variety of decision models that have been developed and studied by the scientific community. A decision model is a graphic representation and process of how individuals make decisions during a variety of situations. Decision models facilitate research and further the understanding of how and why people make decisions. They can also be used as a tool to facilitate training.

Through a review of the available literature, we identified four decision models: the Observing, Orienting, Deciding, Act (OODA) Loop, the Stimulus-Hypothesis-Option-Response (SHOR) Model, the Recognition-Primed Decision-Making (RPDM), and Situation Awareness (SA). These four models have a number of similarities. First, they involve an event of importance, in a specific environment, which causes the individual to take in information on what is happening. The individual then has to process the information, make a decision, take an action based on this decision, and then restart the process. In these four models, decision making is described as a cyclical and dynamic process that involves a constant assessment of the environment. Memory and the ability to process information are important to the decision-making process, and there is variation in people's capacity to process and react to information.

Training and experience will also enhance the decision-making process (Endsley, 1995; Grant & Kooter, 2005 ; Klein, 2013; Wohl, 1981).

For our purposes, these models serve as a foundation from which we can come to understand how law enforcement personnel process information and make decisions during an interdiction. We have not included a full review and description of these four models because it would be beyond the scope of this document. What we describe here involves a simplification and combination of associated concepts which facilitated our analysis of available data and, we hope, will be used in the future as a teaching tool and a model to understand police decision making within the context of an interdiction.

There are seven elements of relevance to police decision making during a police interdiction. Many of these elements are adapted from or represented within the OODA Loop, SHOR, RPDM, and SA. Elements include the following:

- 1) An interdiction is a dynamic encounter with repeated observations, assessments, actions, and evaluations conducted in a short time period;
- 2) Decisions and actions are made without complete information;
- 3) Decision making during an interdiction is iterative and additive. Decisions, actions, and evaluations are constantly evolving and new information is being acquired and processed;
- 4) Multiple decisions and observations are occurring simultaneously;
- 5) There is subjectivity in interpretations of behavior;
- 6) Stress, danger, and human error impact decision making; and
- 7) Memory, cognition, and experience impact the decision-making process.

To develop a model geared towards police decision making during an interdiction, we adapted elements from Endsley's SA Model. This model was utilized because it was reflective of the observation, assessment, and prediction processes which we found that police were undergoing during decision making. As part of this model, we hypothesize that police officers make similar observations, assessments, predictions, and actions during the course of an interdiction. These are defined independently below:

(L1) Level 1 Observations (Observe) – Observation of cues from the environment. Endsley (1995) would describe this as “I saw...”.

(L2) Level 2 Assessments (Assess) - When the officer forms an understanding of the current situation through the collection and interpretation of relevant cues in the environment. Essentially Level 2 decisions are when an officer has developed an understanding of a given situation. These are similar to Endsley's Level 2 decisions (1995). They do not require an associated action. Endsley (1995) would describe this as “I saw and it means...”.

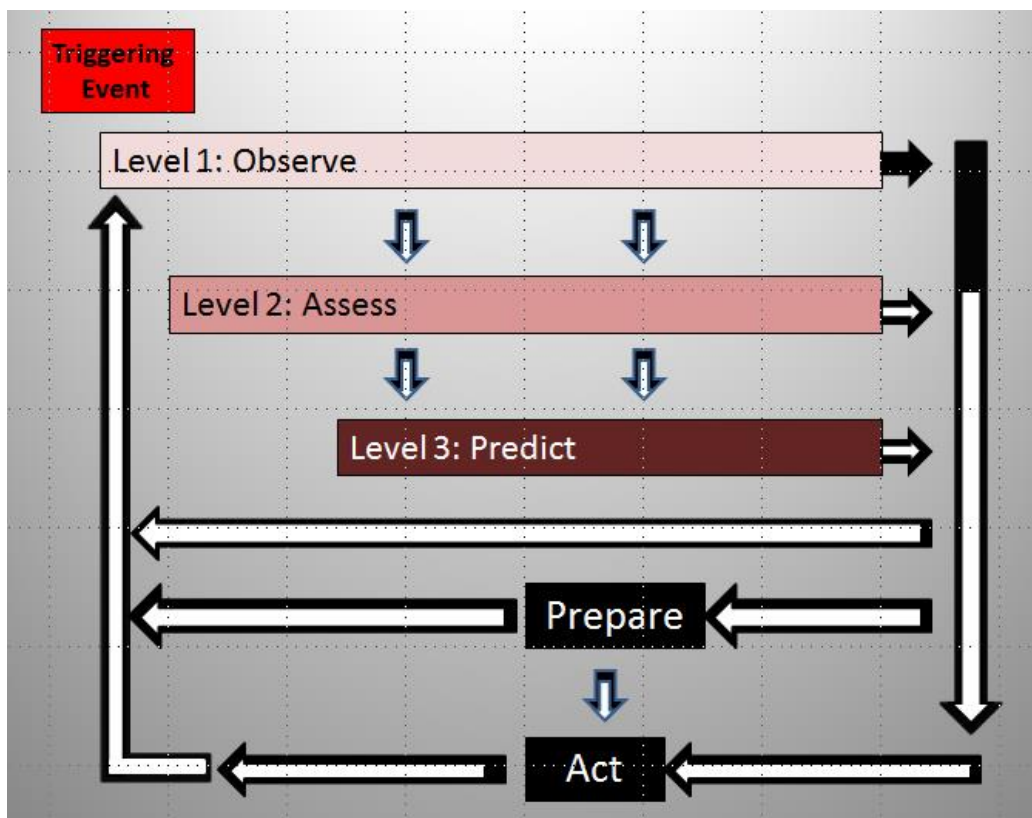
(L3) Level 3 Predictions (Predict) - When the officer makes a determination as to what is likely to happen in the immediate or short term through the collection and interpretation of relevant events

in the environment. These are similar to Endsley's Level 3 decisions (1995). Essentially, Level 3 decisions occur when an officer thinks he knows what is going to happen next during a given situation or encounter. They do not require an associated action. Endsley (1995) would describe this as "I saw and this will happen".

Action – Verbal or non-verbal behaviors that an officer takes based on a given situation. Endsley (1995) would describe this as "I did". Actions can occur from either an L2 or an L3 decision. It can also involve mental preparation to take an action with subsequent action driven by other observations.

Like OODA and the other decision-making models, assessments, predictions, and actions are additive and iterative. This means that observations, assessments, predictions, and actions occur continuously, and that information from prior observations and assessments is of potential relevance later in an encounter. Police interdiction decision-making model is depicted in Figure 1. It, like other decision models, requires a triggering event.

Figure 1. Decision-making Model



As Figure 1 indicates, officers must initially make observations about their environment. From this they form both assessments and predictions about the given situation. These assessments and predictions can be used to either prepare for or take action. This then leads to additional observations. After the initial cycle (Observe/Assess/Predict/ Prepare/Act), observations may lead to actions through

the preparation process. This initial cycle of the decision model is demonstrated by the white arrows. This cycle continues until the interdiction is completed.

This decision-making model is dependent upon the capacity of an individual to understand the cues in his environment. Collecting data and seeing the indicators in the environment is a requirement for further assessments and predictions. During an interdiction, officers are conducting observations, assessments, and predictions on an ongoing basis, constantly collecting new information, acting or not acting based on this new information, and evaluating subject reactions to these actions.

Because these decisions are based on the collection and processing of information from the environment, there must be recognition that human error will occur. Decision makers may not know, interpret, consider, or act appropriately (Klein, 2013). Honig and Lewiski (2008) describe these errors in police decision making in terms of false negative and false positive errors. False negative errors are when an officer rejects something that should have been accepted. A false positive error is something that the officer accepted that should have been rejected. In a lab experiment, Lewinski and Hudson (2003) found that 9% of trigger pulls based on a specific stimulus involved pulling the trigger when one should not have (a false positive error) and 4% involved officers failing to pull the trigger when they should have (a false negative). In the context of our model and police decision making more generally, decision makers may not see the important cues, may see the right cues but not correctly make an assessment, may not realize what is going to happen next, or they may or may not act in the right way.

Police decision making during an interdiction involves making rapid, concurrent decisions, actions, or preparations based on what has already happened or is projected to happen in the future. By studying police decision making and related observations, assessments, and predictions we are provided a framework from which to categorize, interpret, and analyze the data collected during the FTO Seminar.

OBSERVATIONS

As we depict in our decision-making model, police officers' capacity to form assessments and predictions is based upon their observations. These observations include a variety of factors, including visual and verbal behaviors exhibited by the people with whom they are interacting. The utilization of visual and verbal indicators to interpret human behavior requires an understanding of the "normal behavior" of a person, group, or larger environment. Every person, group, or environment has a norm or baseline. "Baselining" is the process by which we establish the norm of behavior in a specific context. By understanding the behaviors in context of that environment, and what behaviors are expected, behaviors that deviate from the norm can be recognized and used to help identify individuals who might be involved in suspicious, threatening, deceptive, or criminal activity.

Behavioral indicators are verbal and non-verbal behaviors which deviate from the individual, group, and environmental baselines and can provide insight into an individual's actions or reactions to trained law enforcement, military, or security personnel. The purpose of this section is to describe different types of behavioral indicators, provide context to why specific behaviors happen, and to explain how they can be interpreted for a given context. The behavioral indicators articulated in this section provided the basis for those exhibited by the participants involved in the role-playing scenarios. These indicators are those identified through the initial phases of the JDLR Project.

This section does not provide full definitions or descriptions of each behavior. These descriptions are included in Appendices A-I (behavioral appendices) at the end of this report, and are described more fully in other AMX reports.

This section of the report includes a variety of different types of behavioral indicators. Each is described in more detail independently and listed in Table 3.

Table 3. Types of Behavioral Indicators

Situational Awareness	Dissipatory Actions	Preparatory Actions	Verbal
Physiological Response to Stress	Disassociation	Carrying Items of Contraband	Group

A. Situational Awareness

Situational awareness is the extent to which an individual is aware of, evaluating, and reacting to his environment. The application of situational awareness to self-defense training practices for law enforcement, the military, and civilians was created by retired Army Colonel Jeff Cooper (Givens, 2004). Cooper created the color codes of situational awareness, which describe levels of situational awareness in terms of assessing and reacting to threats. Situational awareness is a related but distinct concept from Endsley's (1995) Situation Awareness model developed to understand command and control decisions and collecting information in a given environment.

The most distinguishing aspect of situational awareness is the individual's observable act of attentiveness and focus on other people in the environment. This awareness involves the continuous movement of a person's eyes and head as he is scanning for a perceived threat or assessing the potential threat from another individual.

Behaviors associated with situational awareness and reactions to threats are:

- Scanning
- Scanning while Hunching Forward
- Threat Assessment
- Threat Assessment with Head Tilt
- Target Fixation

The behaviors described above are associated with those seeking to establish situational awareness and identify potential threats. These behaviors often have a temporal component: an individual scans until he identifies a threat, performs a threat assessment, and if no threat is assessed he goes back to scanning. If the individual's threat assessment supports that there is a threat, he may fixate on that threat as he formulates a plan of action. These behavioral indicators of situational awareness are fully described in [Appendix A](#).

B. Physiological Response to Stress

People have a number of involuntary reactions to stress due to a rapid increase in the level of neurochemicals and a variety of hormones in their bodies when they are put in a fight or flight situation brought on by fear or a precursor to violence. The extent to which a person exhibits these stress reactions can vary. A more experienced or relaxed individual may show fewer cues, and a confrontational approach by law enforcement may enhance the likelihood that stress related cues are going to occur.

An individual may experience a mix of these cues in varying frequency and intensity. Officers can also make attempts to defuse stress through empathy based techniques. These efforts should begin to cause stress related cues dissipate quite rapidly (in less than a minute) if the offender is not a potential threat or is not planning on fighting, running, or is not carrying some other form of contraband he is trying to hide (NCSHP, 2013; FTO Seminar, 2013). Behaviors associated with the physiological responses to stress are listed below and full descriptions are included in [Appendix B](#).

- Increased Breathing
- Wide Open Eyes
- Perspiration
- Involuntary Facial Cues
- Shaking
- Sweaty Palms
- Target Lock

C. Dissipatory Actions

These dissipatory actions are physical movements and actions associated with the body's parasympathetic nervous system's effort to achieve balance or homeostasis after a stressful event. Their purpose is to dissipate the various chemicals and hormones which are produced by the body. The term dissipatory actions was established by United States Secret Service personnel and we will rely upon it here (Porter, 2012). The extent to which a person exhibits these dissipatory actions and the way in which that person is approached by a potential threat can vary due to the previous experiences of the person. Unlike physiological responses to stress, dissipatory actions involve repetitious movement of the whole or part of the body. These actions are listed below and full descriptions are included in Appendix C.

- Hands Touching Face or Hair
- Scratching
- Fidgety Hands
- Fidgety Body
- Yawning
- Rocking
- Pacing
- Felony Stretch

D. Dissociation

Dissociation involves an attempt to avoid attention by law enforcement or some other threat. When an individual believes he is being observed by law enforcement (or a similar threat), he may try to become "invisible" in place and may feign other behaviors in order to go unnoticed. These dissociative behaviors are listed below and described fully in Appendix D.

- Blending
- No Eye Contact
- Submissive Posture
- Exaggerated Normalcy

E. Preparatory Actions

When a person is put in a potential fight or flight situation, he may engage in a number of behaviors which serve to prepare him for further action. These behaviors are described in Appendix E and listed below.

- Arms in Semi-Defensive Position
- Blading
- Adversarial Distance
- Evasive Maneuvers/Avoidance
- Flight Prep
- Adjustment of Clothing
- Target Glance

F. Carrying Items of Contraband

Most of the behavioral indicators identified through the JDLR Project were collected through the scope of an individual carrying a handgun or illegal drugs in an open space environment. Some behaviors are centered on an individual's awareness of his environment or reaction to a threat, while others are centered on the carrying of specific objects. Behaviors associated with the carrying of contraband items are listed below and are further described in [Appendix F](#).

- Security Feel
- Blading
- Hands in Pockets

There are a number of elements specifically related to carrying legal and illegal firearms that contribute to behaviors displayed by people that carry them. Firstly, guns are potentially deadly objects that can harm the person carrying them if not handled appropriately. People carrying firearms will therefore be expected to handle them with more caution and care than other objects that they are carrying (New York State Division of Criminal Justice Services (NYS DCJS), ND; Pinizzotto, et al., 2006a). Secondly, guns have weight and mass that will affect the wearer's behavior. Thirdly, most people (88%) are right handed, which affects where they place a gun and how they orient their body to use it (Porter, 2010). Lastly, persons carrying illegal guns do not generally use holsters, which will affect how the gun moves on a person's body and their efforts to control it (Pinizzotto, et al., 2006a). Behavioral and visual indicators associated with the carrying of illegal firearms are listed below and fully described in [Appendix G](#).

- Adjusting Pants/Belt
- Shortened/No Arm Swing
- Repositioning Gun
- Inappropriate Clothing
- Shortened/Disrupted Stride
- Picking
- Clothing Fiber Stress
- Bulge Under Clothing

People can also exhibit other object-centric behavior. A subject may also have baggy or loose fitting clothing to facilitate concealment of the particular item of contraband. In the case of airport couriers, a person can exhibit a variety of behaviors that are centered on the luggage in which he is carrying or transporting money or drugs. This behavior has been described as guarding luggage. This behavior involves a courier who is carrying a bag with valuable cargo who acts in ways to protect it and to maintain it within his control. This could include sitting with the luggage between the knees or holding onto it tightly, with the overall goal of keeping this item safe.

G. Verbal Behaviors

There are a variety of verbal behaviors of relevance during an interdiction. There exists a significant amount of available literature on the topic of reading verbal behaviors and detecting deception (Vrij,

Granhag, & Porter, 2010; Hartwig, Granhag, Stromwall, 2011). This section includes those that we have identified through the course of the JDLR Project that are of potential relevance to this effort. These verbal behaviors are listed below and are fully described in Appendix H.

- Deflection
- Conversational Dead Stop
- Deep Sighing
- Can't Answer a Question
- Conversational Declaration

H. Group Behavior

Police frequently encounter people that are together in a group. The group dynamic and the interaction between group members influence behavior. Within the context of couriers in an airport, individuals may also be traveling or working together and may seek to keep that hidden from others. This also results in a number of behaviors. These group behaviors are listed below and fully described in Appendix I.

- Peacocking
- Distraction
- Verification
- Covert Looks
- Acknowledgement Glance
- Disengagement
- Snaking

These behavioral indicators are necessary but not sufficient to understand the ways in which police officers identify and interpret the behaviors of those with whom they are interacting. It is also necessary to understand how these behaviors are factored into the decision-making process of police officers during an interdiction. However, no single indicator should be used to interpret a person's behavior. Rather, behaviors are cumulative; they cluster to provide meaning and understanding within a specific context. When officers observe and then detect behavioral indicators they will likely need to process the information they are receiving from their environment and decide how to act accordingly.

DATA PREPARATION AND ORGANIZATION

In our initial review of the data, we found that officers are concurrently conducting observations, assessments, predictions, and making plans to act, choosing not to act, or taking an action. To study this decision-making process we developed a systematic method to catalogue the data collected from the role-playing scenarios and the participant debriefs. This method was based on the police decision model described in Figure 1. This method involved identifying the different actions, assessments, and predictions that the officers made throughout the role-playing scenario. During this process we also recorded the various behavioral indicators on which the officers relied in their decision-making process. For the purposes of this document, we refer to this process of cataloging data as data coding. This process was necessary to determine the types of assessments and observations that officers make, and the behaviors and clusters of behaviors on which officers rely to make these decisions.

In preparation for the Field Training Seminar, we identified a variety of factors which are likely to influence the decisions and actions of police officers during an interdiction. These factors were identified by the project team through the research conducted in JDLR Phase I and consultation with SMEs. We identified 14 factors and 69 sub-categories of information and types of behaviors relevant to decision making. These factors are described in Table 4.

Table 4. Factors Relevant to Decision Making

Subject's Speech Content	Subject's Speech Characteristics	Subject's Facial Cues	Subject's Body Position
Proximity/Distance Between Officers & Subjects	Subject's Movement	Group Dynamics	Subject Information
Nature of Contact	Physical Environment	Human Environment	Clothing
Objects	Rules of Engagement		

These factors and sub-categories are fully described in the codebook included in [Appendix J](#). The codebook served as a tool to guide data recording, standardize the information, and ensure consistency in the cataloging of collected data.

We organized the data from each role-playing scenario in a table. The table was structured based on our police decision-making model and to allow for the recording of data related to the factors associated with police decision making as outlined in the codebook.

There were two primary sources of data merged in the coding process. These primary sources of data included the video of the role-playing scenario and the transcription of the participant debrief. We also used the transcription of the role-playing scenario as a secondary source of data, but this was of limited utility because there were often multiple individuals engaged in different conversations concurrently.

We coded the participant debrief and the video of the role-playing scenario separately. These are two distinct sources of data. The data from the participant debrief is self-reported; it includes the observations, assessments, and predictions made by the officers and the factors which influenced their decisions. The video provides data on the behaviors exhibited by the subjects and the physical and verbal actions which officers took in response.

The transcripts from the participant debriefs were used to identify each separate assessment, prediction, and action the officers took during the interdiction and the observed behavioral indicators and factors related to that decision. The videos of the role-playing scenarios were coded separately to identify the actions and reactions of the officer and the subjects. We then merged the tables from the video and the participant debrief together into a single table.

The coding of the video and the participant debrief were done by one of the project team members. The coded debrief and video were then reviewed by a different team member to ensure consistency and accuracy. The coded debrief and video were then merged together using the actions described by the officers in the debrief and those depicted in the video as a means of facilitating the merging process. This merge was also conducted by a member of the research team and was reviewed by another team member.

When completed, this coding process allowed us a better understanding of the cycle of actions, predictions, assessments, and reactions which occurred during each role-playing scenario. While many actions and decisions were occurring concurrently (there were multiple subjects and multiple officers), we were able to capture the general sequence of events associated with the role-playing scenarios. A hypothetical example depicting this data structure is included in Table 5.

Table 5. Data Collection Depiction

Officer Action/ Assessment	Assessment 1	Action 1	Prediction 1	Assessment 2	Action 2
Source	Participant Debrief	Participant Debrief & Video	Participant Debrief	Participant Debrief	Participant Debrief & Video
Subject's Speech Content	Conversational Declaration	*	Deflection	Deflection	*
Subject's Speech Characteristics	*	*	*	*	*
Subject's Facial Cues	Scanning	*	*	*	*
Group Dynamics	*	*	*	*	*
Subject Movement	*	Pacing	*	Pacing	*
Proximity/Distance of Officers & Subjects	*	*	Adversarial Distance	*	Adversarial Distance

Subject's Body Position	*	*	*	*	Arms in Semi-Defensive Position
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As depicted in Table 5, an assessment or a prediction is based on observations officers make of their environment and the people with whom they are interacting. They also may take an action based on their assessment or prediction. For example, in Table 5 the hypothetical Assessment 1 was based on the subject making a conversational declaration and scanning. This then lead to other actions, predictions, and assessments. By capturing the information in this form it allowed us to identify observations of behavioral indicators, assessments, predictions, and actions taken by the police officers during the course of the interdiction.

To systematically analyze how behavioral indicators clustered and were utilized in the decision-making process, it was necessary to standardize the collected data. There was significant variation in terminology. In some cases, officers used the same terminology. In other cases they had very different descriptions of the same behavior. Where possible, we relied on definitions and terminology established under the auspices of the JDLR Project.

The number of actions, observations, assessments, and predictions that officers undertook during each scenario is found in Table 6.

Table 6. Breakdown by Scenario

Scenario	Agency	# of Officers	# of Subjects	Assessments & Predictions	Actions	Scenario Length
1	LACSD	2	4	11	24	3:49
2	BPD	2	5	22	24	4:40
3	CMPD	2	5	10	32	3:20
4	HPD	2	2	12	25	1:36
5	LVMPD	2	3	17	36	2:28
6	BPD	2	3	15	39	3:06
Averages	--	2	4	14.5	29	3:16

The scenarios lasted between 1 minute 36 seconds and 4 minutes 40 seconds, with an average of 3 minutes 16 seconds. Officers averaged 14.5 assessments and predictions during these scenarios, which corresponded to an average of 29 actions taken by the officers. This means that, on average, an officer was making an assessment or prediction approximately every 13.5 seconds and taking an action approximately every 6 seconds. The averages of decisions and actions lend support to the idea that an interdiction is a fluid and dynamic process with the officer making numerous observations, assessments, and actions within a small time frame.

After the coding process was completed, we had six different tables with the sequenced assessments, predictions, and actions taken by the police officers during the scenarios. Because one of our stated goals was to understand how police officers utilize behavioral indicators to form their assessments and predictions, it was necessary to merge the data from the scenarios, restructure it, and recode the data. This involved a multi-step process. First, we identified and selected only those elements of the data specifically related to assessments and predictions made by officers. This data was then transposed so that each assessment and prediction became a separate piece (or case) of data to be analyzed. This process left us with a total of 87 assessments and predictions. Within each case we had information on the nature of the assessment and prediction and all behavioral indicators reported by the officers as being relevant to the decision-making process.

The data has limitations. The data includes a total of six role-playing scenarios conducted by officers from five different organizations and should not be considered a representative sample. We sought to capture all relevant decisions, actions, observations, and assessments made by officers. Regretfully, the technologies necessary to videotape, audio record, transcribe, and code every minutia of behavior and actions of every second were not available. Also, during the participant debrief, the officers were not asked about each and every action, observation, and decision they made during the role play. For example, every instance where an officer shifted from one foot to another or small placements of their hands was not included, rather overt actions and decisions associated with the assessments and the decisions that officers made and self-reported were given focus. This would have been a lengthier process than was allowed for with available resources. Therefore, the findings associated with the analysis of these code scenarios should be considered theoretical and descriptive.

The following analysis of the data from the role-playing scenarios is centered on two specific areas. Each area is a separate section in this document. The first, involves how police officers combined (or clustered) visual and verbal cues to form assessments regarding the behavior of a subject. This section is based on our analysis of the 87 assessments and predictions made by officers during the course of the role-playing scenarios. The second is the Universal Interdiction Framework, which involves understanding the phases of an interdiction and the different elements or issues of relevance during an interdiction.

ASSESSMENTS & PREDICTIONS

Police officers seldom rely on a single behavioral cue when making an assessment or a prediction; rather, they rely on combinations of behaviors to interpret a subject's words and actions. For example, having one's hands in one's pockets is not suspicious in and of itself, but refusing to remove one's hands in addition to angling one's body away from an officer in a fighting stance could lead that officer to assess the individual as a threat. The purpose of this section is twofold. First, to describe the types of assessments that officers make during an interdiction based on our analysis of collected data. Second, to identify on which behavioral cues they rely, individually or in combination, to make these assessments.

Our analysis of assessments and clustered behaviors is based on those indicators that officers identified during the participant debriefing process; essentially what they self-reported. We did not utilize the video recordings to identify the cues that the subjects were exhibiting during the scenario. Our goal was to understand what officers saw and how they acted based on these observations. Our focus was on observations of behavior and, due to the nature of the data collection environment, we did not incorporate proximity/distance, rules of engagement, clothing, objects, subject information, nature of contact, and the human and physical environment into these analyses. While the scenarios sought to set the stage, it was not plausible to assume that officers relied upon external factors which were not actually present in the environment as part of their decision making.

This analysis will allow for a better understanding regarding the police decision-making model which we described in Figure 1. It will also provide us with an understanding of how observations are used to inform the assessments and predictions made by officers. In general, we found officers make significantly more assessments than predictions and the primary focus of this section is those assessments.

A. Defining Types of Assessments & Predictions

We found officers generally make five different types of assessments and one type of prediction during an interdiction. While they are making a variety of other assessments, they are frequently and consistently making assessments of *Demeanor*, *Compliance*, *Deceit*, *Criminality*, and *Threat*. They are also frequently and consistently making predictions of *Flight*.

Disentangling the different types of assessments was not straightforward. We established mutually exclusive categories for the types of assessments, but due to the iterative nature of an interdiction, prior assessments were likely incorporated into later assessments and predictions. For example, an officer uses his assessment of a subject's compliance to assess the level of threat and prior assessments of threat in their current *Threat* assessments. This concept of prior assessments and predictions being incorporated into later ones is also captured in our decision model.

These five assessments and one prediction are described in Table 7 below. Also included in this table are both an *Other* category of assessments and *Tactical Decisions/Actions* made by officers which involve judgment and subsequent or planned actions made by the officers. In total, we identified approximately 87 assessments the officers made during the scenarios. The most frequent assessments were of *Demeanor* and *Threat*.

Table 7. Assessment & Prediction Types

Type	Description	Frequency	Percent
<i>Demeanor</i>	What is the given emotional state of the subject at a given point in time; can also be referred to as the emotional state of the subject.	15	17.2
<i>Compliance</i>	To what extent is the subject complying with the requests made by the officers at a given point in time.	8	9.2
<i>Deceit</i>	To what extent is the subject misrepresenting, mischaracterizing, or lying to the officers at a given point in time.	6	6.9
<i>Criminality</i>	To what extent has enough evidence been identified or provided to ascertain criminal behavior by the subject.	9	10.3
<i>Other</i>	An assessment of the subject(s) was made but does not meet criteria for the identified assessment categories.	5	5.7
<i>Threat</i>	To what extent is the subject a threat to the decision-maker, other officers, or other persons present at a given point in time.	16	18.4
<i>Flight</i>	To what extent has the subject taken physical action or formulated a plan to exit the immediate environment in absence of authoritative commands.	4	4.6
<i>Tactical Decisions/ Actions</i>	Decisions or actions to alter or control a person's behavior, environment, or situation in order to increase safety for all individuals involved. ²	24	27.6
Total		87	100

B. Observed Behavioral Indicators

Officers rely upon behaviors exhibited by the subject to inform their assessments and predictions. We relied upon our standardized definitions of behavioral indicators as identified in Appendices A-J. These terms sufficed in most cases to capture the behaviors officers reported observing. However, relying

² *Tactical Decisions* can be made at any point of the interdiction process. If there is prior knowledge that a person might be a threat then a tactical plan can be formulated prior to approach. When an officer has a visual of subject(s), a tactical reaction or plan can be formulated when the subject has demonstrated behaviors that have led the officer to formulate a tactical approach or reaction.

on previously defined behavioral indicators was not sufficient in all cases. Therefore, when the officer's articulation did not match these indicators he was placed into an "Other" category. Those indicators that occurred frequently but were not pre-defined in our behavioral appendices are described later in this section.

Some of the behaviors articulated in the appendices rely upon the intent of the subject (e.g., target glance) or are so specific that we were not able to capture the exact behavior in the participant debrief. In some cases, we had to rely upon more general indicators such as general movement (rather than pacing or rocking) when an accurate determination from the debrief of participating officers could not be made.

Officers relied upon many different indicators when forming their assessments. For example, they may have relied upon multiple indicators associated with facial cues, body position, or movement. In one assessment, an officer relied on a combination of ten verbal and visual indicators.

Overall, we found that officers rely more on visual indicators (56.3% of all assessments) and a combination of visual and verbal indicators (36.8% of all assessments) when making assessments. This means that out of the total number of indicators which officers utilized in making assessment, 90% of assessments involved a visual cue. The use of verbal and visual indicators by officers is described independently below. All tables in this section are described in terms of the entire sample of assessments and predictions. Please note that officers often relied on more than one visual or verbal indicator in forming these assessments.

Verbal Indicators

In 38 of 87 assessments and predictions (43.7%), officers relied on one or more verbal indicators. This includes reliance upon only verbal indicators (6.9%) or a reliance on verbal indicators in combination with visual indicators (36.8%). The different verbal indicators utilized in the assessments and predictions are included in Table 8. The officers may have relied on more than one verbal indicator in forming their assessments and predictions, therefore we have not included totals in Table 8. Table 8 also describes the frequency in which officers relied upon any particular behavioral indicator out of the 87 assessments and predictions.

Table 8. Verbal Indicators Used in All Assessments

Speech Content	Freq.	Percent	Speech Characteristics	Freq.	Percent	Group Dynamics Verbal	Freq.	Percent
Making Threats	4	4.6	Pitch	8	9.2	Group Talking	6	6.9
Avoid or Deflecting Questions	7	8.0	Defiant Tone	1	1.1	One Member silent	1	1.1

Speech Content	Freq.	Percent	Speech Characteristics	Freq.	Percent	Group Dynamics Verbal	Freq.	Percent
Questioning Officer	5	5.7	Fast Speech	2	2.3			
Inconsistent Answers	5	5.7	Other	2	2.3			
Other	12	13.4						
Conversational Peculiarities	2	2.3						

As the above table indicates, officers relied more on speech content and speech characteristics than group verbal interaction. In particular, officers based their assessments on the subject making threats, avoiding/deflecting questions, subjects questioning the officers, inconsistent answers, the pitch of the subject's voice, or verbal interaction among multiple subjects.

Definitions of those indicators not included in the behavioral appendices are described in Table 9.

Table 9. Other Verbal Indicators

Indicator	Description
Making Threats	Subjects making threats to take a violent action. These threats can be directed at the officer or another individual
Inconsistent Answers	Subject's answers to questions are inconsistent or his answers are inconsistent with other information.
Questioning Officer	Subject questions officer regarding the encounter and specific things that are occurring.
Pitch	Tone (or pitch) of Subject's voice is different from the baseline.
Defiant Tone	Subject's tone of voice is perceived as being defiant.
Fast Speech	Subject talking quickly.
Group Members Talking	Verbal interaction between the various subjects involved in the interdiction.
One Member Silent	One member of the group of subjects conspicuously silent when others are talking to officers.

Visual Indicators

In 81 of 87 assessments (93.1%), officers relied on one or more visual indicators. This includes reliance upon only visual indicators (54.4%) or a reliance on visual indicators in combination with verbal indicators (36.8%). The different visual indicators utilized in the assessments are included in Table 10. The officers typically relied on more than one visual indicator in forming their assessments and predictions, therefore we have not included totals in Table 10. Table 10 describes the frequency in which officers relied upon any particular behavioral indicator out of the sample.

Table 10. Visual Indicators Used in All Assessments

Facial Cues	Frequency	Percent	Body Position	Frequency	Percent
Scanning	4	4.6	Blading	19	21.8
Looking Down	5	5.7	Squaring Off	2	2.3
Looking Away	1	1.1	Hand Movement	10	11.5
Focused	1	1.1	Hand Position	20	23.0
Eyebrow Movement	4	4.6	Security Feel	6	6.9
Looks at Other Subject	8	9.2	Hands Clenched	2	2.3
Looks at Officer	4	4.6	Hands in Pockets	12	13.8
Looks at Exit	3	3.4	Arm Position	11	12.6
Other	17	19.5	Rigid Body	5	5.7
			Other Body Position	28	32.2
Movement	Frequency	Percent	Group Dynamics – Visual	Frequency	Percent
Rocking	3	3.4	Group Interaction	4	4.6
Pacing	2	2.3	Member Dissociating	1	1.1
Fidgeting (Any)	2	2.3	Members Signaling	2	2.3
Evasive Maneuvers	11	12.6			
General Movement	7	8.0			
Half Turn	4	4.6			

Facial Cues	Frequency	Percent	Body Position	Frequency	Percent
Subject Moving Towards Officer	4	4.6			
Unmoving	3	3.4			

In all, officers relied more on body position than any other type of visual indicator. Specifically, they relied on blading, hand movement/position, and hands being in pockets. Movement was also an element of their assessments with a particular focus on evasive maneuvers and general movement. The facial cues relied on by officers centered on where or at whom the subject was looking.

Definitions of those other visual indicators not included in the behavioral appendices are described in Table 11.

Table 11. Other Visual Indicators

Indicator	Description
“Look”-Related Indicators	Subject is seen by the officer as looking down, looking away, focused, looking at other subject, looking at officer, and looking at exit.
Squaring Off	Subject stands directly in front of another individual with knees slightly bent and shoulder leaned towards that individual.
Eyebrow Movement	Movement of subject’s eyebrows.
Hand Position	Officer notes location where subject was holding or placing his hands.
Hand Movement	Subject is moving his hands.
Hands Clenched	Subject’s hands are clenched in a fist.
Arm Position	Officer notes the way subject is holding or placing his arms.
General Movement	Subject is moving around, but officer could not discern the type of movement.
Subject Moving Towards Officer	Subject moves towards the officer.
Half Turn	Subject partially turns his body.
Rigid Body	Subject is holding his body firmly in one position and not moving around.
Unmoving	Subject is not moving.

Indicator	Description
Group Interaction	Group members are interacting in some way.
Signaling	One subject signals another subject.

C. Analyzing Assessments & Predictions

The purpose of this section is to describe the specific verbal and visual indicators on which officers rely when forming specific assessments and making predictions. Regrettably, we do not have the capability to identify the weight or saliency of particular indicators. It may be that a particular assessment could have been made based on one or two specific indicators, but that particular officer also described additional indicators which were incorporated into the assessment. Therefore, we do not know which indicators alone would have met the threshold to formulate an assessment. For example, an officer might have made a threat assessment based on hand movement and speech content, but goes on to describe observed facial cues and demeanor.

Officers made numerous assessments in the course of the role-playing scenarios. In the following section, we describe the findings related to our analysis of each type of assessment and prediction. In these descriptions, we have also identified clusters of behaviors and consistent indicators. Clusters are those combinations of behaviors which occur in two or more assessments of the same type. Consistent indicators are those indicators that occur two or more times in specific assessments.

Clusters are described with the behavioral indicator, the category of that specific indicator, and the number of assessments in which this cluster was identified. Specifically, the clusters will be described as depicted below:

Cluster – Indicator #1 [Behavioral Category], Indicator #2 [Behavioral Category], Indicator #3 [Behavioral Category] (#Assessments in which Cluster Occurred out of Total)

Example: Flight Cluster – Looking Away [Facial Cues], Nervous [Demeanor], (2 of 4 Predictions)

In the example, in two of the four predictions of *Flight*, officers perceived that the subject might attempt to run away because they saw he was looking away and appeared to be nervous.

Overall, we did not identify as many clusters as was expected. This may be because the participating officers were from a variety of organizations and all have had significant variation in their experiences. The limited number of clusters may also be because participants went through different role-playing scenarios, limiting exposure to the similar situations.

Demeanor

The perceived emotional state of the individual was an element in a significant number of assessments. Officers either made an outright assessment of *Demeanor* or incorporated demeanor into one

of their assessments. In total, we clearly identified 15 assessments of *Demeanor* made by officers. However, the emotional state of the individual was used to inform a significant number of other assessments and we were not able to capture these in the data.³

When making a *Demeanor* assessment officers relied only on visual indicators in 9 of 15 assessments or in 6 of 15 assessments a combination of visual and verbal indicators. In no case did officers rely upon verbal indicators in these assessments of *Demeanor*. On average, officers relied upon approximately 5 indicators to form their assessments, but the number of indicators on which they relied ranged from 1 to 10 indicators.

A wide variety of different emotional states were assessed in these 15 assessments. They ranged from hostility, to anger, to relaxed, to defensive. No specific emotional state occurred consistently enough to allow us to identify specific clusters of behavior or consistent indicators.

Compliance

Officers made 8 assessments of *Compliance*. An assessment of *Compliance* involves determining whether or not the subject will comply with the directives of the officer or answer questions. In 6 of the 8 assessments, officers relied upon a combination of visual and verbal cues. Officers relied only on visual cues in two of their assessments.

In 6 of the 8 assessments of *Compliance*, officers indicated that the subject was not obeying or acceding to their requests; the officers believed that the subject would not comply with their directives or answer their questions. Officers used a variety of consistent indicators when describing the assessments but there was only one consistent cluster. This cluster is described below.

1. Non-compliance Cluster – Hand Position/Hand in Pockets [Body Position], Defiant [Demeanor] (2 of 6 Assessments)

There were a number of consistent indicators associated with non-compliance. Those consistent indicators included: Avoiding and Deflecting Questions, Hand Movement or Position, Blading, and Looking Away/Down/Around. In 4 of 6 assessments, officers also noted hand position or hand movement as relevant indicators.

An outright statement of “no” was also seen as non-compliant (also known as a verbal declaration). The frequency with which officers relied on where the subject was looking could mean that the individual was not focused on the officer making the assessment, and the officer believed he would not comply. This may also be because the subject was intentionally ignoring the officers or formulating a plan.

³ In 48.9% of the 87 assessments, officers relied on the emotional state of the individual to inform their assessment. This may mean that officers are first assessing the demeanor of the subject and this assessment of the subject’s demeanor is then being used in subsequent assessments. Regretfully, our ability to fully capture the iterative and additive nature which demeanor plays into other assessments is limited. When demeanor was incorporated into other assessments, officers identified a variety of other emotions or emotional states exhibited by a subject which they factored into their assessments. Officers stated that the subjects at various times were: hostile, angry, nervous, aggressive, amped up, agitated, anxious, confrontational, antagonistic, calm, relaxed, and adversarial.

Throughout our discussions with participating officers, they identified a number of different ways that also assessed that the subject was not complying. These indicators include: 1) verbally interrupting the officer; 2) not following the commands of the officer; 3) following the commands of officers slowly; 4) not fully following commands; and 5) questioning the actions of the officers.

In 2 of the 8 assessments, the officers assessed that the subject was obeying their directions or answering questions. Officers relied upon fewer indicators in assessing this type of *Compliance*, but the limited number of assessments like these limits our ability to identify clusters of behavior.

Throughout our discussions with participating officers, they identified a number of different ways that also assessed when the subject was following or acceding to their commands. These indicators include: 1) the subject nodding his head to the commands of the officer; 2) asking permission of the officer to take an action; and 3) complying quickly with requests of the officer.

Deceit

Officers made a total of 6 assessments of *Deceit*. In 2 of 6 assessments they relied only on verbal indicators, in 2 of 6 assessments on only visual indicators, and in 2 of 6 assessments on both visual and verbal indicators. In 50% of the assessments of *Deceit*, officers incorporated an assessment of the subject's demeanor. Assessments of *Deceit* relied on an average of 3.7 indicators, but ranged from 1 to 6.

It should be noted that deception and lie detection is an area of research which has resulted in significant research and contradictory results among a variety of different scholars. Deception detection is also an area where officers rely upon on-the-job training and may have received a variety of formal training courses with unknown validity. The cues and clusters outlined below are those which the officers reported were associated with their overall assessments. These clusters or even utilization of specific cues should not be taken as a specific indicator of deception. Rather, these are the combination of cues which officers utilized in making these specific assessments of *Deceit*.

Indicators of *Deceit* made during assessments and clusters are described below.

1. Deceit Cluster - Hesitations [Speech Characteristics] or Avoidance/Deflection [Speech Content], and Position of Hands and Arms [Body Position] (2 of 4 Assessments)
2. Deceit Cluster- Hesitations [Speech characteristics] or Avoidance/Deflection [Speech Content] and Looking at Other Subject [Facial Cues] (2 of 4 Assessments)

There were a number of consistent indicators associated with assessments of *Deceit*. These indicators included: Avoiding or Deflecting Questions, Looking at the Other Subject, Hand and/or Arm Position, and Inconsistent Answers.

Criminality

Officers made 9 assessments of *Criminality*. In 7 of the 9 assessments officers relied on only visual indicators and a combination of verbal and visual indicators in the remaining 2 assessments. There were no verbal-only indicators reported. In a minority (33.3%) of assessments of *Criminality*, officers relied partially on the demeanor of the subject.

On average, officers utilized 4 indicators to form their assessments but ranged from 1 to 7. It should be noted that 6 of the 9 *Criminality* assessments were from one scenario (scenario 3), limiting the overall generalizability of the information.

There were 2 clusters identified in these assessments. Particular clusters are described below.

1. Criminality Cluster - Looking Down/Away/Around [Facial Cues], Half Turn [Movement], and Blading [Body Position] (3 of 9 Assessments)
2. Criminality Cluster – Looking Down/Away/Around [Facial Cues], Half Turn [Movement], Hand Movement [Body Position], Confrontational [Demeanor] (2 of 9 Assessments)

The consistent indicators utilized in forming a *Criminality* assessment included: Looking Down, Looking Away/Looking for an Exit, Half Turn, Hand Movement/Security Feel, and Blading.

Other

Officers made approximately five assessments that were considered as *Other*. Officers relied on visual-only indicators in 2 of the 5 assessments, and a combination of verbal and visual indicators in 2 of 5 assessments, and only on verbal indicators in one assessment. On average officers utilized 4 indicators to form their assessments but ranged from 2 to 7. Due to the low frequency and variety of indicators in the *Other* assessment category, no further conclusions can be made about clusters and consistent indicators.

Threat

We coded 16 *Threat* assessments through the course of the scenarios. Officers relied either solely upon visual indicators in 11 of 16 assessments or on both verbal and visual indicators in 4 of 16 assessments. In 1 assessment officers relied only on a verbal indicator. In making a *Threat* assessment, 81% of the time officers also included assessments or conclusions about the demeanor of the individual. On average, officers relied upon 4 indicators to form their *Threat* assessments but ranged from 1 to 7 indicators.

Officers made a variety of assessments related to a threat. These included assessments of the extent to which an individual is a threat at a particular time or a change in an individual's threat level from one point to another. Based on limitations in our data, all assessments could not be systematically categorized, and therefore the analysis describing indicators must be associated with all *Threat* assessments, differences between assessments of high and low threat, and changes in threats.

Most assessments of *Threat* involved blading, hand position, arm position, and movement. Importantly, in their *Threat* assessments officers tended to look for blading in combination with hand and/or arm position, and with some movement (evasive maneuvers or pacing). Clusters associated with *Threat* assessments are included below.

1. Threat Cluster – Bladed [Body Position] and Hand Position/Clenched/In Pockets [Body Position] (5 of 16 Assessments)
2. Threat Cluster – Hand Movement/Position [Body Position] and Evasive Maneuvers [Movement] (2 of 16 Assessments)

The consistent indicators utilized in forming a *Threat* assessment included: Asking Officer Questions, Squaring Body to the Officer, Blading, Hands in Pockets, Clenched Hands, Arm Position, Evasive Maneuvers, and Moving towards the Officer.

In 4 of the 16 assessments of *Threat*, officers assessed a change in the level of threat they perceived. In one instance, the level of assessed *Threat* was lowered. This was due to a subject complying with forceful verbal commands made by the officer and an understanding by the subject that he was not likely to be arrested.

Those threat adjustments that involved an increased threat were based on visual, verbal, and a combination of visual and verbal indicators. Specifically, officers relied on speech content and characteristics and a combination of movement and body position. In two of these three assessments of enhanced threat, officers also relied on an assessment of the subject's demeanor. Officers relied on an average of 3.5 indicators when changing the level of assessed *Threat*.

We identified one cluster associated with an enhanced assessment of *Threat*.

1. Heightened Threat Cluster – Pitch [Speech Characteristics], Pacing/Moving [Movement], and Blading [Body Position] (2 of 3 Assessments)

Consistent indicators of enhanced *Threat* assessments include: Pitch of the Subject's Voice and Blading. In two of the three assessments, officers also noted that the subject was either moving around or towards them.

In assessments of a highly threatening individual, officers relied upon visual and verbal indicators, but in assessments of persons of low threat they relied upon visual indicators only. In assessments of high or low threat, the officers incorporated an assessment of the subject's demeanor and in one case an assessment of the subject's compliance.

There were no consistent clusters associated with these different *Threat* assessments, and due to the limited number of these types of assessments there were no consistent indicators. However, there were indicators associated with body positions (such as blading, hands in pockets, and shifting) that may involve someone's willingness to fight or use a weapon.

Flight

Officers made approximately 4 predictions of *Flight*. *Flight* predictions relied only on visual indicators in 3 of 4 predictions and a combination of visual and verbal in 1 of 4 predictions. In 75% of the predictions, officers also relied upon assessment of the individual's emotional state. *Flight* predictions relied on an average of 4 indicators, and the number of indicators ranged from 2 to 5. It should be noted that 3 of the 4 predictions of *Flight* were from one scenario, limiting the overall generalizability of the information.

There was one *Flight* cluster identified in these four predictions. Particular clusters are described below.

1. Flight Cluster - Looking Away/For an Exit [Facial Cues] and Nervousness [Demeanor], (2 of 4 Predictions)

Consistent indicators of flight include: Perceived Nervousness (or agitation), Evasive Maneuvers, and Looking Away/Looking for an Exit.

Tactical Decisions or Actions

A *Tactical Decision or Action* is typically made when the subject has demonstrated behaviors that have led the officer to formulate or take an action. The objective of a *Tactical Decision or Action* is to alter or control a person's behavior, environment, or situation in order to increase safety for all individuals involved.

Officers made approximately 24 *Tactical Decisions or Actions*. When making a *Tactical Decisions or Actions*, officers relied only on visual indicators in 13 of 24 cases, combination of visual and verbal in 9 of 24 cases, and only verbal in 2 of 24 cases. Approximately 38% of the time, officers incorporated an assessment of the subject's emotional state into their *Tactical Decisions or Action*. Officers relied upon an average of 3 indicators to form their *Tactical Decisions or Actions*, but ranged from 1 to 9 indicators.

Overall, there were a wide variety of indicators but no clusters associated with *Tactical Decisions or Actions*. However, there were a notable amount of consistent indicators. Consistent verbal indicators included: Avoiding or Deflecting Questions and Inconsistent Answers. Consistent visual indicators included: Subject Looking at Another Subject, Subjects Talking, Rocking, Evasive Maneuvers, General Movement, Blading, Hand Movement, and Hand Position.

We identified subcategories of *Tactical Decisions or Actions*. These subcategories include:

- Verbal Request – the officer makes a verbal request of one or more subjects in order to control subject(s) or environment;
- Physical Control – the officer has made a decision to apply physical restraint (such as handcuffing the subject) or physical search to control subject(s) or the environment and gain more information;
- Search – the officer has made a decision that involves searching a person or belongings; and
- Planning – the officer has made a decision to formulate a plan that will prevent or minimize unwanted actions from the subject.

Of the different types of *Tactical Decisions or Actions* that officers made or undertook, the most frequent *Tactical Decision* made by officers was physical control (42%), followed by other (23%) and planning (15%). Due to the high frequency of physical control and the low frequency of the other *Tactical* subcategories, only physical control will be described in more detail.

When making physical control decisions, officers in some cases relied only on verbal indicators but in most cases relied on a combination of visual and verbal indicators. Speech content was most often used when making a physical control decision based on verbal indicators. When relying on visual indicators officers most often relied on either movement or facial cues and a combination of movement and body position.

Consistent indicators associated with the decision to take physical control of a subject include: Subject Looking at the Other Subject, Rocking , and Hand Position. Officers made a number of other *Tactical Decisions* during an interdiction. However, due to the small number of these cases we were not able to identify consistent behavioral indicators. This could be due to a variety of factors. Specifically, the decision to take an action is cumulative and may have incorporated a variety of prior assessments which were not articulated. It may also have been that during our debriefing process the indicators may not have been fully drawn out of the officers.

D. Discussion of Findings

Our findings related to officer decision making and the assessment, prediction, and action cycle help us meet the goals of the JDLR Project. The purpose of this section is to discuss the relevance of these findings to the JDLR Project, the limitations of the research, and the contribution of these findings to policing research.

JDLR Project Goals

The purpose of the JDLR Project is to better understand how police officers perceive and assess behavioral indicators of threatening, deceitful, or suspicious behavior. This research is being conducted with the goal of transferring this knowledge to other military, law enforcement, and security personnel.

In prior JDLR research we identified suspicious behavioral indicators, but did not articulate how these behaviors are used in an operational context. Framing the interdiction as a cycle of observations, assessments, predictions, and actions helps us to better understand what is occurring during a police interdiction. By then categorizing the types of assessments and predictions that police officers make and identifying the specific behaviors on which officers rely to inform their decisions, it better identifies how behavioral indicators are used in interactive settings.

This research also helped us meet project goals through our identification of how behaviors cluster and which behaviors are used consistently by police officers. We now have a better understanding of which behaviors, in which combinations, lead to specific types of assessments. By identifying clusters and consistent behavioral indicators used in assessments and predictions we also have a clearer understanding of those behaviors which should and should not be transferred to other law enforcement, military, or security personnel.

Officers identified numerous indicators across all scenarios. However, not all indicators were relevant in a particular assessment. Our analytical process allowed us to narrow down indicators to those that are relevant to officer decision making in a specific context. This is beneficial because it reduces the number of different behaviors which need to be taught. Furthermore, by breaking up indicators by type of assessment it facilitates the identification and transfer of information relevant to different job roles. For example, an infantryman who is working a security/protection detail might be more concerned about threat, whereas a military policeman working a checkpoint might be more concerned about deceit and/or compliance.

Limitations

Our approach and findings have a number of limitations. Specific limitations include the time order of events, a small sample size, the debriefing approach, the self-reporting process, the retrospective nature of the analytical approach, and the dual roles taken by some members of the project team. It should be noted that this was an exploratory process and the approaches we utilized were developed specifically for this effort. If we replicated this research approach in the future, the process would be greatly improved. We would be able to more fully debrief our participants, more fully capture and categorize officers' decision making, and enhance the quality of our findings. Each limitation will be explained in greater detail below and where possible we have identified methods to reduce these problems in future research.

The data coding process attempted to catalogue data in a way that would clearly identify the sequence of events occurring during each scenario. However, the time ordering events were often difficult to judge due to concurrent actions by officers and subjects. There were often multiple subjects and multiple officers interacting at the same time. In addition, several concurrent actions by subjects and officers complicate the data collection process by creating what is termed "noise", which could have caused information to be lost during the debrief and data coding process.

The sample was small. We conducted six role-playing scenarios which involved teams of officers from six law enforcement organizations. This limits our ability to generalize our findings. In addition, only one team of officers participated in a scenario twice. This limits the range and consistency of the data. If this research were replicated in the future, we would increase the number of participants, increase the number of scenarios, and have multiple teams role play each scenario.

Officers that participated in the same scenario were debriefed together. This creates several limitations. First, one officer may have contributed more than the other officer. Second, because of the subjective nature of observations, assessments, and predictions, officers have different perspectives on the scenario. By interviewing the officers together, there was a risk that only one point-of-view was captured or that the officers' potentially divergent views were merged. Overall, this may have resulted in less indicators reported during the participant debrief or mischaracterizations of the type of assessment being made. Future research with a similar data collection strategy should interview officers separately. This would also provide the opportunity to compare assessments and indicators between officers that shared the same experience.

The main form of data collection was self-reporting. The limitation of self-reporting is that it increases the chance of collecting incomplete or misrepresented data. For example, when being interviewed after a role-play scenario, officers might have over-reported or under-reported indicators they used in their decision-making process. Future research could reduce self-reporting problems by utilizing a standardized checklist of behaviors and assessments which officers could aid in the debriefing process.

The exploratory nature of our data coding process also created other limitations. We identified a number of potential avenues of research and questions post-data collection. This created the issue of formulating additional research questions during the analysis process. For example, a logical research question would be to identify which indicators the role players exhibited during the scenarios and those indicators which the participating officers did and did not identify. However, because the officers only

self-reported, and the limited quality of our video data means that we could not systematically answer the question of which indicators they did not identify. Another major limitation with a retrospective approach is the inability to go back and ask officers more pertinent questions. A question of interest would have been if the officers perceived their assessments on a spectrum. For example, within an assessment, what indicators were perceived as increasing compliance or decreasing compliance and to what degree? Future research can address these issues by developing measurement criteria, and by asking more follow-up questions during the debriefing.

The project team members served multiple roles and the police trainers who participated in the scenarios are also police personnel. This may have caused them to naturally exhibit behaviors that are typical of law enforcement personnel, such as blading. In the future, greater efforts should be made to choreograph the behaviors displayed by the actors in the scenarios without limiting the dynamic nature of the encounter. The actors in the role-play scenarios also conducted the participant debriefs. The quality of the data may have been enhanced by having multiple people conduct debriefs, including one of the actors and an observer to the scenario.

Contribution to Policing Research

Due to the exploratory nature of this research, we believe it adds a number of distinct contributions to the field of policing. These contributions relate to both our methodology and findings.

Our research process allowed us to develop an in-depth understanding of officers' thought processes during an interdiction. This understanding, when framed through the context of existing decision models and decision-making research, facilitated the development of a theoretical model which captured the iterative and additive decision-making process which occurs during a police interdiction. While this model was derived from pre-existing decision models, we believe its development is a contribution because it allows a specific focus on decision making in the context of police encounters with citizens. These encounters are complex and potentially dangerous to both the officers and the citizens with whom they are interacting and because thousands of these interactions occur on a daily basis, a specific focus on interdiction is necessary.

By framing an interdiction as a cycle of observations, assessments, predictions, and actions, it allowed us to develop a process to record and then analyze this cycle of decision making. When this process was combined with our pre-existing research on behavioral indicators it allowed us to understand how and why police officers are making decisions and actions in contexts independent of decisions to use force or make an arrest. This analytical process may also facilitate the study of other research questions in policing.

As part of our research we developed standardized terms for behavioral indicators utilized by police personnel in their decision-making process. We identified several ways to describe a behavior and fused it into a single term that can be used by police trainers and better understood by police officers and criminal justice practitioners. This is beneficial because it allows for the easy transfer of important knowledge into a training program. Standardization also provides a framework to assess the validity and reliability of behavioral indicators utilized by police on a daily basis. It is important that future research

tests the validity and reliability of the identified indicators so that consistency and strength can be established.

In the next section, we continue this effort at standardization through a framework developed to describe an interdiction as a uniform sequence of events. This framework is known as the Universal Interdiction Framework or UIF.

UNIVERSAL INTERDICTION FRAMEWORK (UIF)

An interdiction is a fluid and dynamic encounter that requires constant assessment, action, and reaction by officers. It can involve a single officer or group of officers and a subject or group of subjects. We propose that all interdictions tend to share similar stages and have similar elements within these stages.

We developed the Universal Interdiction Framework (UIF) to describe a law enforcement-civilian interaction in a standardized sequence of events. The UIF also captures the dynamic and iterative decision-making process of observations, assessments, predictions, planning, and actions which we found occur during a police interdiction. The UIF can also serve as a depiction of the theoretical decision-making model which provides the basis for the organization of the data and findings from the FTO Seminar. The purpose of the UIF is to help structure the reader's understanding of an interdiction so that officer actions can be better understood and be used as a training tool for efficient, legal, safe, and effective police interdictions.

The UIF breaks an interdiction down into five phases with multiple elements in each phase. These phases and their associated elements are listed in Table 12.

Table 12. UIF Phases and Sub-elements

Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Initial Observations	Planning the Contact	The Approach	The Contact	Assessment/Conclusion
Baseline & Deviations	Behavioral Assessment	Behavioral Assessment	Behavioral Assessment	Legal Assessment
Behavioral Assessment	Tactical Approach	Tactical Approach	Tactical Position	Collect Intelligence Obtained
Subject Background	Verbal Communication Plan/Interview Strategy	Verbal Communication Plan	Contact & Cover	Conclude Subject's Objective
Criminal Action/Pre-Action Assessment	Legal Assessment	Contact & Cover	Conduct Communication – Conduct Interview	Advise Subject(s)
Interdiction Objective	Location Risk Assessment		Maintaining a Safe Perimeter	Arrest/Release

Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Initial Observations	Planning the Contact	The Approach	The Contact	Assessment/ Conclusion
Baseline & Deviations	Behavioral Assessment	Behavioral Assessment	Behavioral Assessment	Legal Assessment
	Formulate the Physical Setting		Pat-down Technique for Weapons	
	Contact & Cover		Establishing a Command Presence	
			Handcuffing and Searching Techniques	

As Table 12 indicates, there are five phases and multiple elements within each phase. Some elements are relevant in more than one phase. For example, behavioral assessments occur in most phases of an interdiction.

The UIF describes the elements and officer actions/assessments that likely happen during the course of an interdiction. Due to the dynamic and time-sensitive nature of an interdiction, not all elements in the framework may be relevant to a given interdiction. In addition, these elements do not necessarily require deliberation and conscious effort. The elements may be conducted subconsciously and be part of an officer's mental process for approaching an interdiction.

In the following section, we describe each phase and its associated elements. This does not include specific police tactics associated with each element; this would be beyond the scope of this document. As a descriptive tool, we are describing the various elements through the scope of two of our role-playing scenarios. To better understand the provided scenario examples, the complete narrative of Scenarios 3 and 6 are provided below.

Scenario 3: There is a group of approximately 12 people standing in the middle of the road encircling 2 men. Both males are squared off shouting at each other. One of the males (Subject 1) has blood on his face and the other male (Subject 2) is standing with clinched fists. The area is residential and the time is 1300hrs. As the officers approach, someone alerts their presence and Subject 2 quickly walks away with 2 other males. The remaining group of people is still standing around Subject 1 with some of them shouting at him.

Scenario 6: A known drug dealer is seen standing in front of a convenience store at 2000hrs. The male subject appears nervous; he continually looks around while rocking back and forth on the balls of his feet. The subject also keeps tapping the outside of his left pants pocket. There are several people entering and exiting the store. It is dark out with limited lighting from the store lights. When the subject notices police watching, he quickly enters the store and remains inside

for about 5 minutes. The subject then exits the store with an unknown male and they slowly walk away together.

A. UIF PHASE 1 – Initial Observations

The initial observation involves the data and information officers have observed or have been provided when dispatched to the scene. It includes the reason for the interdiction and the initial context of an encounter. There are five elements in the initial observation and each element is explained in greater detail below.

- 1) *Baseline & Deviations* - Establishing behavioral baseline (environment, group, individual) & deviations from that baseline (Table 13).

Table 13. Initial Observations – Baseline & Deviations

Scenario 3	Scenario 6
A crowd was standing around them while Subject 1 and Subject 2 are shouting at one another. Subject 3 is next to Subject 1. Subjects 4 and 5 are bystanders to the altercation.	Subject 3 was standing out in front of a store and frequently looking around.

- 2) *Behavioral Assessment* - Initial assessments related to the interdiction and other assessments of behavior (Table 14).

Table 14. Initial Observations – Behavioral Assessment

Scenario 3	Scenario 6
Subject 1 is hostile and is in a bladed stance. Subject 2 has clenched fists and is also in a bladed stance. Subject 3 has his shirt untucked on his right hand side and arms crossed over his chest.	Officers believe that Subject 3 is a drug dealer because he is concerned about being watched (showing situational awareness) and rocking back and forth on the balls of his feet. Lastly, he enters the store when he sees the officers.

- 3) *Subject Background* - Prior knowledge of subject from experience with that person or prior knowledge of the person's behavior or criminal history. Background information facilitates planning and behavioral assessments (Table 15).

Table 15. Initial Observations – Subject Background

Scenario 3	Scenario 6
No prior background is known about the subjects.	Officers have prior information that Subject 3 is a drug dealer.

- 4) *Criminal Action/Pre-action Assessment* - Assessment that a crime has been committed, the subject is in the act of committing a crime, or has the intent to commit a crime (Table 16).

Table 16. Initial Observations – Criminal Action/Pre-action Assessment

Scenario 3	Scenario 6
Officers believe that a fight has occurred or will occur because both Subject 1 and Subject 2 have a bladed/fighting stance.	They believe that Subject 3 is carrying drugs. They also know that this area has a prior history of drug sales.

- 5) *Interdiction Objective* - Goals or the reason necessary for the interdiction (Table 17).

Table 17. Initial Observations – Interdiction Objective

Scenario 3	Scenario 6
Goal of the interdiction is to disperse the crowd, identify the instigator, call for backup, and interpret the situation.	The officers want to determine if Subject 3 is in possession of drugs.

B. UIF PHASE 2 – Planning the Contact

Phase 2 involves the planning of the interdiction. It will set the stage for how officers' conduct most elements of the interdiction. There are seven elements associated with planning. These are described independently below.

- 1) *Behavioral Assessment* - Assessing the cumulative set of actions (verbal & non-verbal) that are suspicious in nature, with a primary focus on behaviors that indicate demeanor, compliance, criminality, deceit, flight, or threat. This can also include a variety of observations regarding the interdiction and other assessments of behavior (Table 18).

Table 18. Planning the Contact – Behavioral Assessment

Scenario 3	Scenario 6
Officers believe that Subject 1 is the assaulter and Subject 2 is the victim. Subject 1 (the assaulter) is angry but this anger is directed at Subject 2. Subject 2 is pointing his finger at Subject 1 and is puffed up, tapping his jacket pocket, and has a bladed stance.	The officers are concerned that Subject 3 may have a weapon because he is touching his pocket. However, he is playing/toying with the object in his pocket, which one does not commonly do with a weapon. Additionally, guns are not typically carried in a front pocket.

- 2) *Tactical Approach* - Plan the physical tactical approach and containment of the subject, includes maintaining a safe distance and unobstructed view of the subject while isolating the interdiction from outside influences (Table 19).

Table 19. Planning the Contact – Tactical Approach

Scenario 3	Scenario 6
Officers will maintain visual contact with each other on their approach while containing and controlling Subject 1, Subject 2, and Subject 3.	They are planning on a low-key and casual approach.

- 3) *Verbal Communication Plan/ Interview Strategy*: Plan a proactive verbal strategy that will achieve objectives. Techniques can be applied in both accusatory and non-accusatory situations. Plan should include expectations and interpretation of information (Table 20).

Table 20. Planning the Contact – Verbal Communication Plan/Interview Strategy

Scenario 3	Scenario 6
Their plan is to detain and interview all subjects with the goal of defusing the situation, interpreting the story, and identifying the instigator of the fight.	They will come in casually to set the stage because they can always elevate their tone (i.e., be more aggressive/commanding/forceful) but it is much harder to de-escalate a situation. As part of their strategy, they will try to determine if Subject 3 stashed the drugs in the store.

- 4) *Legal Assessment* - Determine the extent to which the actions committed by the subject or the reason for the interdiction allows for the detainment or arrest of that specific individual (Table 21).

Table 21. Planning the Contact – Legal Assessment

Scenario 3	Scenario 6
Disperse crowd and detain Subject(s).	They believe they can legally detain the Subject for questioning.

- 5) *Location Risk Assessment* - Assess hostility of environment or geographic location due to other people, vehicles, or any other potential hazard that could harm anyone involved in the interdiction (Table 22).

Table 22. Planning the Contact – Location Risk Assessment

Scenario 3	Scenario 6
This is a troublesome location because the crowd is shouting at Subject 2 (the victim) as well. If this was a high-crime area, officers would call for back up.	The area is low- to medium-risk because they are outside of the store and there are people coming and going.

- 6) *Formulate Physical Setting* - Plan for utilizing physical structures as barriers for corralling the subject(s). This helps to minimize their chance of escape and provides the officer(s) with a tactical advantage over other threats (Table 23).

Table 23. Planning the Contact – Formulate Physical Setting

Scenario 3	Scenario 6
Separating the subjects along with orienting them so their backs are toward the wall and the officer's position minimizes their chance of fleeing.	Their plan is to stop the subject in front of the store to assist in containment, but conduct the stop away from the door.

- 7) *Contact & Cover* - If more than one officer is involved in the interdiction, officers should develop a plan for Contact and Cover roles. These roles involve establishing duties of the officers during the contact. The contact officer is the lead officer and interviews the main subject and directs the cover officer if needed. The cover officer has the role of maintaining security and watching the body language of the subject and assessing weapons/threats. There may be one contact officer and several cover officers. If there are multiple subjects, the cover officer will verbally engage them with the purpose of obtaining information without steering the interdiction in any direction, which could be counterproductive with what the contact officer is doing. It also helps to occupy the subjects' thoughts so they cannot easily come up with a plan or listen to the conversation the contact officer is having (Table 24).

Table 24. Planning the Contact – Contact & Cover

Scenario 3	Scenario 6
Officer 1 is the Contact Officer and he will engage with Subject 2 (the believed victim). Officer 2 is the Cover Officer and will engage with Subject 1 and Subject 3. (Will also refer to as Contact/Cover Officer in further descriptions)	Officer 2 will be the Contact Officer and focus on Subject 3. Officer 1 will be the Cover Officer and focus on Subject 1 and Subject 2. (Will also refer to as Contact/Cover Officer in further descriptions)

C. UIF PHASE 3 – The Approach

The Approach involves the initial approach and contact of the interdiction. This includes the movement of the officers towards the subjects and the initial verbal contacts the officers make with the subjects. There are four elements associated with the approach. These are described independently below.

- 1) *Behavioral Assessment* - Assessing cumulative set of actions (verbal & non-verbal) that are suspicious in nature, with a primary focus on behaviors that indicate compliance, demeanor/emotion, threat (or flight), deceit, or criminality. These assessments can also include a variety of observations regarding the interdiction and other assessments of behavior. There is also a specific focus on changes in behavior based on the pulse or initial contact (Table 25).

Table 25. The Approach – Behavioral Assessment

Scenario 3	Scenario 6
Upon approach, Subject 1 is yelling at Subject 2. Subject 2 dissociates when he sees police. Noticing the approach of the officers, Subject 3 nudges Subject 1 and tries to get him to leave. Subject 1 and Subject 2 are both bladed. Officers believe that Subject 1 and Subject 3 are together. Subject 2 has his hands up on approach.	<p>On approach, the officers perceive Subject 1 to be a low threat level and Subject 2 to be tense. They believe that Subject 3 anticipated their arrival and became more anxious or nervous when he saw the officers.</p> <p>Officers assess that Subject 3 is not carrying a weapon because he is patting his thighs with his hands, tapping differently than with a security feel, and has no real bulge in his pocket. People typically carry weapons in the waist or small of the back.</p> <p>Officers assess Subject 3 as a known criminal based on his entering the store, leaving the store, and then walking away. He also seems more relaxed (sauntering, naturally swinging arms) when he leaves the store than when he entered.</p> <p>Subject 1 is relaxed (relaxed facial expression, complied when asked to take hands out of pockets) even though he is right in the middle of everything.</p> <p>On approach, Subject 2 blades his body, is rocking back and forth, and his eyes are wide open.</p>

- 2) *Tactical Approach* - On approach, the officers need to be prepared for the subject taking either an offensive or defensive position. The officer should also maintain a tactical advantage if it should escalate into a physical or deadly physical force situation. This should involve minimizing the movement of the subject, orienting them to stand in front of the contact officer, and maintaining a clear view of hands. If necessary, the tactical approach could involve detaining and controlling the subject as part of the approach (Table 26).

Table 26. The Approach – Tactical Approach

Scenario 3	Scenario 6
On the approach, officers move towards their respective subjects (per the plan) separated by about	As officers approached, Officer 2 (Contact)

3-4 feet.	approached Subject 3, moves him against the wall, and begins questioning him. Officer 1 (Cover) moves over to Subject 1 and Subject 2 and moves them against the wall.
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- 3) *Verbal Communication Plan* - Officers will initiate the verbal communication plan in terms of both the officers' demeanor and to establish dominance over the subject (Table 27).

Table 27. The Approach – Verbal Communication Plan

Scenario 3	Scenario 6
Both Officer 1 and Officer 2 begin talking to all subjects. Officer 1 (Contact) begins interviewing Subject 2 (the victim) and Officer 2 (Cover) begins interviewing Subject 1 and Subject 3. Both officers approach the subjects calmly in order to put them at ease and not escalate the situation.	Officers begin verbally engaging the subjects casually but authoritatively by asking “Hey guys, what’s up?” Officer 2 (Cover) asks Subject 1 to remove his hands from his pockets. Officers are concerned because Subject 2 is making veiled threats and seems tense.

- 4) *Contact & Cover* - An element of the tactical approach (Table 28).

Table 28. The Approach – Contact & Cover

Scenario 3	Scenario 6
Officers follow planned contact and cover roles.	Officers approach together and separate subjects, engaging with each as planned.

D. UIF PHASE 4 –Contact

The contact is the majority of the interdiction. It involves the verbal and physical interplay of the officers and the subjects after the initial contact. There are eight elements of the contact and each are described independently below.

- 1) *Behavioral Assessment* - Assessing cumulative set of actions (verbal & non-verbal) that are suspicious in nature, with a primary focus on behaviors that indicate compliance, demeanor/emotion, threat (or flight), deceit, or criminality. These assessments can include a variety of observations regarding the interdiction and other assessments of behavior (Table 29).

Table 29. Contact – Behavioral Assessment

Scenario 3	Scenario 6
During the contact, Subject 1 is	Subject 2 shows signs of agitation and defiance throughout the

Scenario 3	Scenario 6
<p>threatening, hostile, and combative. He is agitated and moving around, non-compliant with the demands of officers, and speaking angrily. He initially refused to be searched or provide his name. He appears to be flushed and holds a rigid posture. At times he is bladed, has hands on hips, and is clenching his fists.</p> <p>Subject 2 (the victim) is more cooperative, generally nervous, and shifting back and forth on his feet.</p> <p>During the contact, Subject 3 is repeatedly trying to come between the officers and appears to be trying to flank Officer 2 (Cover).</p>	<p>contact. He moves away from Officer 1 (Cover) and refuses to put his hands down and is constantly rocking back and blading his body. These combined behaviors repeatedly cause officers to raise their threat level.</p> <p>During the interdiction, Subject 2 is also making defiant declarative statements about pushing back against Officer 1 (Cover). They see him as angry because his eyes are open, eyebrows down, has tightened muscles in arms, and at one point rolled up his sleeves (believed to be in preparation to fight), and was holding hands at waist.</p> <p>Subject 1 and Subject 3 (the alleged drug dealer) are both compliant and relaxed. The officers think that Subject 2's defiance may be in an effort to draw their attention away from Subject 1 because Subject 1 is getting more anxious as the other subjects are detained. Subject 1 is gradually getting more aggressive, but they do not see Subject 1 as a significant threat because his legs are not bent and not in a position to attack.</p> <p>Officer 1 (Cover) becomes concerned with Subject 1 because he is quiet and wearing bulkier clothing. They have not searched him, and become concerned that he might have a weapon.</p> <p>After Subject 2 is cuffed and in custody, Subject 1 gets agitated, and looks like he might run when Officer 1 (Cover) tries to search him. He challenges the officers and seems to be concerned that Subject 2's distraction did not work. Initially got aggressive and then officers took control of the situation.</p>

- 2) *Tactical Position* - Regardless of the threat level the subject may possess, it is vital to arrange the interview setting with the subject at a safe distance away and position the officers with a tactical advantage over the subject (such as the tactical "L"). Tactical positioning also includes controlling the person's movement, hand positions and mental focus in order to achieve a productive interview. If necessary, the subject should be moved to the pre-planned location and shielded from outside influences (Table 30).

Table 30. Contact – Tactical Position

Scenario 3	Scenario 6
<p>Officer 1 (Contact) keeps himself in front of Subject 2 and the bystanders. Officer 2 stays and interviews Subject 1 and Subject 3. Officer 1 (Contact) moves to maintain visual contact with Officer 2 (Cover). Subject 3 repeatedly tries to step in between officers. Officer 1 also asks Subject 1 to stand in front of him when he moves, to keep Subject 1 from being within striking distance.</p> <p>Officer 1 (Contact) gradually shifts Subject 2 (the victim) to a position that will allow him to maintain visual contact with Officer 2 (Cover) and provide support if necessary.</p>	<p>The officers work to maintain a clear view of one another and keep the subjects against the wall. Both the Contact Officer and the Cover Officer continually shift their positions so they can see each other.</p> <p>Subject 2 is continuously moving around and Officer 1 (Cover) repeatedly steps in front of the subject to maintain control. Subject 2 also makes repeated steps towards Officer 2 and he is ordered back.</p> <p>Officer 1 (Cover) repeatedly responds to both body language and verbal threats indicating Subject 2 may physically assault him. Subject 2 is repeatedly declaring that he is angry and tired of these contacts, is rocking back and forth, clenching his fist, putting his right hand to his side and blading his body away. Eventually the officers turn him around and cuff him to control him.</p>

- 3) *Contact and Cover* - Officers maintain contact and cover roles. It involves a focus on the contact officer conducting the interview and the cover officer maintaining security and watching the body language of the subject and assessing weapons/threats (Table 31).

Table 31. Contact – Contact & Cover

Scenario 3	Scenario 6
<p>Contact and Cover roles are not strictly upheld due to the dynamic nature of the contact and the belligerence and aggression of Subject 1.</p> <p>Officer 1 (Contact) gradually shifts Subject 2 (the victim) to a position that will allow him to maintain visual contact with Officer 2 (Cover) and provide support if necessary.</p>	<p>The two officers had to juggle the three subjects between them. While Officer 2 (Contact) had the initial contact role with Subject 2, Officer 1 (Cover) dealt with the other two subjects.</p> <p>As Subject 2 became belligerent with Officer 1 (Cover), Officer 2 (Contact) began to monitor and interact with Subject 1 allowing Officer 1 (Cover) to deal with Subject 2. Then after the Cover Officer dealt with and detained Subject 2, he switched to assisting the Contact Officer with Subject 1.</p>

- 4) *Verbal Communication – Conduct Interview* - Implement verbal communications plan. The interview can be conducted as an information collection interview or accusatorial interrogation (Table 32).

Table 32. Contact – Verbal Communication

Scenario 3	Scenario 6
Officer 2 (Cover) works to defuse Subject 1 during their discussion while he collects background information. Asks Subject 1 if he has weapons on him, including if he has a rocket launcher (using humor to defuse situation). Officer 1 (Contact) interviews Subject 2 and asks him for his ID.	<p>Officer 2 (Contact) interviews Subject 2 and eventually decides to switch his focus from focusing on drugs to control. Subject 2 is repeatedly asking questions back of the officer and making declarative statements. Officer 2 (Contact) is concerned about Subject 2's intentions and why he is so angry. The goal of communication becomes calming the Subject down and gaining control.</p> <p>When questioned about his DOB, Subject 2 hesitates, takes time giving full name, and follows with "um" which officer perceives as indicating deceit.</p> <p>Officer 2 (Contact) initially interviews Subject 3. He then shifts the focus of his questioning on Subject 1 to see if he is hiding anything. He also tells Subject 1 to relax when he begins to get agitated.</p>

- 5) *Maintaining a Safe Perimeter* - This element involves maintaining a barrier around the contact so that it can occur without outside interference. It also includes the continuous observation and risk assessment of the surrounding environment to facilitate safe conduct (Table 33).

Table 33. Contact – Maintaining a Safe Perimeter

Scenario 3	Scenario 6
Subjects 4-5 are present and assessed by the officers not to be a threat. Subject 4 records the interdiction on the phone. Both are largely ignored.	Not an element of scenario.

- 6) *Pat-down Technique for Weapons* - If necessary, officers may conduct an external pat-down to search for weapons without making an arrest. The physical techniques used will depend upon the subject's demeanor, behavioral indicators, and threat level. Associated guidelines are generally established by case law and organizational policy (Table 34).

Table 34. Contact – Pat-Down Technique for Weapons

Scenario 3	Scenario 6
Officer 2 (Cover) asks to pat down Subject 1 first, Subject 1 eventually accedes and Officer 2 turns him around and pats him down. Officer 2 also asks to pat down Subject 3 and turns him around to pat him down. Officer 1 (Contact) asks and pats down Subject 2.	Officer 2 (Contact) eventually orders Subject 3 to put his hands up and frisks him. Officer 1 (Cover) asks and gets permission to pat down first Subject 2 and then steps over and pats down Subject 1.

- 7) *Establishing a Command Presence* - Officers establish the level of domination necessary to detain and conduct the interdiction. The level necessary will be dependent upon the legal authority, continual assessment, and the interview strategy with the subject (Table 35).

Table 35. Contact – Establishing a Command Presence

Scenario 3	Scenario 6
To control the situation Officer 1 (Contact) initially directs Subject 2 away from the crowd to interview him. Officer 2 also corrals and diverts the attention of Subjects 1 and 3 away from Subject 2.	The Cover Officer (Officer 1) repeatedly orders, corrals, and works to dominate Subject 1 and 2. Officer 2 (Contact) also corrals Subject 3.

- 8) *Handcuffing and Searching Techniques* - Techniques can be used that will maximize officer safety regardless of subject resistance. Searching involves going into a person's pockets and involving a full body search (pocket, shoes, socks etc.). Handcuffing and searching techniques are established by case law and organizational policy (Table 36).

Table 36. Contact – Handcuffing & Searching Techniques

Scenario 3	Scenario 6
Not applicable, no arrest made.	Officer 1 turns Subject 2 around and faces him against the wall when he cuffs him then shifts to Subject 1 and requests to search him.

E. UIF PHASE 5 – Assessment/Conclusion

The conclusion of the interdiction involves an overall assessment of the interdiction. In this phase, officers must make decisions as to how they will end the interdiction based on the information they collected. There are five elements associated with this phase, each are described independently below.

- 1) *Legal Assessment* - Assess whether a crime has been committed; requires further investigation or an arrest (Table 37).

Table 37. Assessment /Conclusion – Legal Assessment

Scenario 3	Scenario 6
No criminal activity confirmed, although officers believe that Subject 1 assaulted Subject 2.	Officer 2 (Contact) eventually releases Subject 3.

- 2) *Collect Intelligence Obtained* - Collect and review sources of information and intelligence available during an interdiction (i.e., multiple subjects, witnesses, physical evidence, electronic communications and officers' observations) (Table 38).

Table 38. Assessment /Conclusion – Collect Intelligence Obtained

Scenario 3	Scenario 6
Role Play Scenario Ended	Overall, officers believe that Subject 2 lied about the cigarettes and his arrest record.

- 3) *Conclude Subject's objective* - If the suspicious behavior of a subject did not reveal a criminal act, then a conclusion of the subject's intention or purpose of his actions should be determined (Table 39).

Table 39. Assessment /Conclusion – Conclude Subject's Objective

Scenario 3	Scenario 6
The officers believe that Subject 1 and Subject 3 want to further assault Subject 2 because Subject 3 was target locked on Subject 2, indicating to Officer 2 that he might go after him. Subject 1 is also still angry and potentially violent towards Subject 2.	The officers believe that the subjects anticipated the arrival of the police and likely stashed drugs in the store.

- 4) *Advise Subject(s)* - Officers should provide constructive advice to subjects at the conclusion of the interdiction (Table 40).

Table 40. Assessment /Conclusion – Advise Subject(s)

Scenario 3	Scenario 6
Role play scenario ended	All subjects advised and released.

- 5) *Arrest/Release* - Upon termination of the interdiction, a subject is arrested, taken into custody for further investigation, or released and allowed to leave (Table 40).

Table 41. Assessment /Conclusion – Arrest/Release

Scenario 3	Scenario 6
Role play scenario ended	No arrests made.

F. Benefits of the UIF

Overall, the UIF provides an opportunity to better understand the sequence of events associated with an interdiction. It also provides a better opportunity to explore both how an interdiction unfolds and how behavioral indicators are used in the assessment of behavior and the decision-making process.

The UIF is a descriptive teaching tool. By approaching an interdiction as a standardized sequence of events and particular elements associated with each event, it can facilitate police officer training in a number of ways. First, it can assist in the development of the experiences and mental schema necessary for police officers to function in high stress situations. Second, it will help them to better interpret the behavior of those subjects with whom they are interacting and take appropriate and legal actions to protect themselves. Third, the UIF could also be used as a debriefing tool to assist in understanding officer actions and errors after an interdiction (in a training scenario or real world event). More generally, by understanding and implementing the framework during an interdiction, it may provide officers the ability to define and predict subject actions, formulate and execute interaction objectives, enhance communication and control, and enhance safety awareness.

CONCLUSION

The purpose of the JDLR Project and this document more specifically is to better understand the utilization of behavioral indicators by the police. Our goal is to then transfer this knowledge to other military, law enforcement, and security personnel. This knowledge should better prepare them to interpret human behavior and react appropriately and effectively in situations involving threats, deceit, or person's carrying contraband.

This research is exploratory and more research in this area is needed. Future research should study police decision making and assess the validity of our theoretical decision-making model. Second, efforts need to be undertaken to assess the reliability and validity of behaviors used by the police on a daily basis. Third, police interactions with the public occur on a daily basis and countless observations, assessments, predictions, and actions are taken by police officers. We need to better understand how these decisions are made in an operational context because of their legal and human rights implications.

In this report specifically, we sought to understand how police make decisions and perceive, interpret, and react to behavioral indicators during an interdiction. In prior JDLR research we identified suspicious behavioral indicators, but did not articulate how these behaviors are used in an operational context. By framing the interdiction as a cycle of observations, assessments, predictions, and actions it helps us better understand what is occurring during a police interdiction. The role-playing and debriefing process we undertook to study police decision making and interpretation of behavioral indicators has also not been replicated in any previous research that we have identified. We now have a better understanding of how and why police officers make decisions during an interdiction and the types of observations, assessments, and predictions police officers routinely make.

Based on a combination of sources, we have identified a number of behavioral indicators on which police officers routinely rely to interpret behavior. We have also established standardized terminology associated with these behaviors. This facilitates the transfer of knowledge to inexperienced personnel and to further develop research in this area.

We have found that police make a variety of concurrent observations, assessments, and predictions during the course of an interdiction. Furthermore, assessments were based on behavioral cues which we have identified in prior research. This lends support to the validity and reliability of our findings.

Through the Universal Interdiction Framework (UIF), we have developed a tool which should allow us to both better understand interdictions and teach tactics, techniques, and the use of behavioral indicators for law enforcement and security personnel.

This report, in combination with the other research conducted under JDLR, creates a foundation for the development of training for teaching law enforcement and security personnel to utilize behavioral indicators in a safe and effective manner. Training police, military, and security personnel to interpret and properly react to the behavior of those with whom they are interacting will better prepare them to complete their mission and keep themselves and their fellow officers safe.

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Appendix A: Behavioral Indicators of Situational Awareness ⁴

Behavior	Description	Gun	Drug	Courier	FTO	Other
Scanning	When a person makes visual contact of individual approaching or inside his immediate area. This would appear as an individual visually searching his environment for any sign of danger or in a state of hyper vigilance. This has also been called “hyper awareness”. It may seem as if someone’s “head is on a swivel” and eyes looking around the environment for vehicles, foot traffic, or escape routes.	X	X	X	X	X
Scanning while Hunching Forward	An individual who is scanning may hunch over and/or lean forward as part of the scanning process or when he is trying to identify a potential threat. This hunching forward may be an attempt to focus all senses (sight, sound, hearing, smell) closer to the threat so as to make a better assessment.	-	X	-	-	-
Threat Assessment	Involves evaluating another individual’s threat potential through direct focus and study of the individual as well as an assessment of the environment for avenues of escape. A person assessing a threat is deliberate and calculating in his attention to detail and can involve a person who is developing a contingency plan if a threat occurs. This may include staring at a person walking through a crowd and looking at each person close to him in a prolonged manner. In an encounter with law enforcement, this may be seen as an offender “eying an officer up” as he approaches. This may involve a squint when	X	X	X	X	X

⁴ In Appendices A-I we identify the sourcing for each behavioral indicator. The sources for the behavioral indicators are listed below.

- Gun - AMX Report on the Behavioral Indicators of Illegal and Legal Gun Carrying;
- Drug - AMX Report on the Behavioral Indicators of Drug Carrying in Open Spaces;
- Courier - AMX Report on the Behavioral Indicators of Drug Couriers in Airports;
- FTO - Transcripts from the AMX Field Training Officer Seminar conducted in JDLR Phase II; and
- Other - Publically available documentation and other existing research.

	assessing the individual.					
Threat Assessment w/Head Tilt	While conducting the threat assessment, a person may tilt his head to the side	-	X	-	-	-
Target Fixation	This involves an intense stare (often looking blank) and without movement of the head. It includes staring at the perceived threat, almost looking as if the individual is in a trance with wide blank eyes. In actuality he is fixated on the threat and processing the next actions that he should take, such as whether to flee or fight. Persons who are fixating on a threat are often less aware of their surroundings.	-	X	-	X	-

Appendix B: Physiological Responses to Stress⁵

Behavior	Description	Gun	Drug	Courier	FTO	Other
Carotid Artery Pulse	An individual who experiences a rapid increase in adrenalin may have a visibly pulsing or thumping carotid artery on his neck.	-	X	X	-	-
Increased Breathing	An individual who experiences a rapid increase in adrenalin may be breathing rapidly.	-	X	X	-	-
Wide Open Eyes	When initially contacted by law enforcement or a perceived threat, the suspect may exhibit wide open eyes or a distant unresponsive stare. This has been described as a “deer in the headlights” look.	X	X	-	-	-
Perspiration	An individual who experiences a rapid increase in adrenalin may sweat excessively.	X	X	X	-	-
Involuntary Facial Cues	A rapid increase in adrenalin may cause involuntary facial cues. High blood pressure and a neurological condition known as tachypsychia are the cause of these visible reactions and are stimulated by fear and anger. These cues include sweating, a nervous smile, facial tics, a red face, bulging veins, blinking (IALEFI, 2012), licking of the lips (Martinez, 2012), and fast eye movement.	X	X	X	X	-
Shaking	An individual who experiences a rapid increase in adrenalin may shake. This shake can be felt as small tremors if in contact with the individual. It may be visible depending upon the distance from the individual and the part of the body being observed. A person’s hands may be seen to	X	X	X	-	-

⁵ In Appendices A-I we identify the sourcing for each behavioral indicator. The sources for the behavioral indicators are listed below.

- Gun - AMX Report on the Behavioral Indicators of Illegal and Legal Gun Carrying;
- Drug - AMX Report on the Behavioral Indicators of Drug Carrying in Open Spaces;
- Courier - AMX Report on the Behavioral Indicators of Drug Couriers in Airports;
- FTO - Transcripts from the AMX Field Training Officer Seminar conducted in JDLR Phase II; and
- Other - Publically available documentation and other existing research.

	shake.					
Sweaty Palms	An individual who is experiencing stress is likely to sweat from his palms and this may result in them wiping hands repeatedly on clothes or some other item to dry them.	-	X	X	-	-
Target Lock	When someone becomes target locked on a potential threat or something that he fears, it is an element of an individual's survival mechanism. It involves a focus on something that is feared. Involves a person not able to stop looking at what he fears past the point a person normally would (like turning around to watch something) or even following what he fears. This could include an individual looking at an item of contraband he has hidden on his body or looking at another individual who is carrying contraband or wanted by the police.	-	-	-	X	X

Appendix C: Dissipatory Actions⁶

Behavior	Description	Gun	Drug	Courier	FTO	Other
Hands touching Face or Hair	This behavior involves a person repetitively running his hands through his hair, touching his face or facial hair, rubbing eyes, or rubbing the head.	X	X	-	-	-
Scratching	This behavior involves a person repeatedly itching or scratching on the body.	X	X	-	-	-
Fidgety Hands	Fidgety Hands is a partial body dissipatory action, involving repetitive behavior such as continuously rubbing the fingers together, or repeated wringing, moving, or fidgeting hands.	X	X	X	X	-
Fidgety Body	Fidgety Body is a partial body dissipatory action, involving repetitive behavior such as tapping the foot or yawning and repeated shifting or moving of the body.	X	X	X	-	-
Yawning	Repeated yawning. This can be both an involuntary dissipatory action and a “fake yawn” which is done to give a person time to develop a plan, make a decision or respond to a question.	X	X	X	-	-
Rocking	Rocking is a full body movement, in which the individual is usually stationary and will slowly sway back and forth or from side to side (Martinez, 2012). Rocking can also sometimes be interpreted as an indicator of an impending violent act.	X	X	-	-	-

⁶ In Appendices A-I we identify the sourcing for each behavioral indicator. The sources for the behavioral indicators are listed below.

- Gun - AMX Report on the Behavioral Indicators of Illegal and Legal Gun Carrying;
- Drug - AMX Report on the Behavioral Indicators of Drug Carrying in Open Spaces;
- Courier - AMX Report on the Behavioral Indicators of Drug Couriers in Airports;
- FTO - Transcripts from the AMX Field Training Officer Seminar conducted in JDLR Phase II; and
- Other - Publically available documentation and other existing research.

Pacing	Pacing involves an individual walking back and forth in a small area.	X	X	-	X	-
Felony Stretch	Will stretch with arms while making assessment of situation, then may run (or fight).	-	X	-	-	-

Appendix D: Dissociation⁷

Behavior	Description	Gun	Drug	Courier	FTO	Other
Blending	Blending involves someone trying to match or become part of his environment to avoid notice by law enforcement (or potentially some other threat). This can include a number of behaviors, such as checking phones, a male putting his arm around a female, or starting a conversation when he sees the police. An individual may even totally disregard an obvious undeniable presence of law enforcement.	X	X	-	X	-
No Eye Contact	A person may avoid eye contact with law enforcement when approached.	X	X	X	-	-
Submissive Posture	When an individual sees law enforcement (or some other threat) and is trying to dissociate he may hunch over and down to avoid being seen as a threat.	-	X	-	X	-
Exaggerated Normalcy	This behavior occurs when a person exaggerates the extent to which he would appear to be a member of an environment (i.e., doing too much to blend in). For example, the CRIP street gangs wear the color blue to signify membership. A mule who is over exaggerating may dress all in blue (hat, shirt, shoes, belt, etc.) when he is carrying drugs into a CRIP neighborhood.	-	X	-	-	-

⁷ In Appendices A-I we identify the sourcing for each behavioral indicator. The sources for the behavioral indicators are listed below.

- Gun - AMX Report on the Behavioral Indicators of Illegal and Legal Gun Carrying;
- Drug - AMX Report on the Behavioral Indicators of Drug Carrying in Open Spaces;
- Courier - AMX Report on the Behavioral Indicators of Drug Couriers in Airports;
- FTO - Transcripts from the AMX Field Training Officer Seminar conducted in JDLR Phase II; and
- Other - Publically available documentation and other existing research.

Appendix E: Preparatory Actions⁸

Behavior	Description	Gun	Drug	Courier	FTO	Other
Arms in Semi-Defensive Position	Individual places his hands at waist level to shorten the reaction time to defend or strike: the body may also be slightly turned to allow for quicker reaction to threats. This may also be in an ideal position from which to quickly draw a weapon. Whether or not an individual has closed or open fists is also important. A closed fist could indicate an increased likelihood of a person who feels threatened or intends to use physical force and is ready to react. This can be combined with blading and it is often called fighting stance.	X	X	-	X	-
Blading	Blading involves an individual turning his body 90 degrees to orient his stance so the strong or dominant side is positioned about one half step back from the weak side of the body in order to have the ability to attack. Blading can also be done to conceal contraband; this is explained in greater detail in a different section.	X	X	-	X	-
Adversarial Distance	Adversarial Distance involves an individual maintaining distance from a specific threat to better allow him to fight. Adversarial distance is offensive in nature. It may involve a person who does not move from a position of advantage or cover when ordered or pulsed by a threat. In the case of a person with a firearm, he may move to a distance that he feels confident in accurately shooting and/or a position of advantage that may provide cover. It can be part of an aggressive plan of attack to utilize a firearm and set in	X	X	-	X	-

⁸ In Appendices A-I we identify the sourcing for each behavioral indicator. The sources for the behavioral indicators are listed below.

- Gun - AMX Report on the Behavioral Indicators of Illegal and Legal Gun Carrying;
- Drug - AMX Report on the Behavioral Indicators of Drug Carrying in Open Spaces;
- Courier - AMX Report on the Behavioral Indicators of Drug Couriers in Airports;
- FTO - Transcripts from the AMX Field Training Officer Seminar conducted in JDLR Phase II; and
- Other - Publically available documentation and other existing research.

	motion this plan to inflict serious bodily harm or death on another person. An individual may also attempt to conceal himself or get behind cover to protect himself from gun fire.					
Evasive Maneuvers/ Avoidance	The deliberate movement of an individual away from a threat or potential threat. Evasive maneuvers are defensive in nature. They are noticeable in the presence or approach of law enforcement by the immediate change in behavior to a “retreat mode”, creating a greater distance between himself and a threat.	X	X	X	X	-
Flight Prep	When a person is walking into a potential fight or flight situation, he might orient his body in a way to give them time to decide what to do. Flight prep occurs when a person’s body is angled in one direction (towards a potential threat) while his feet are pointed in another direction (toward an avenue of escape) and he is contemplating what to do next. He is also likely to look in the direction he is going to flee.	-	X	-	X	X
Adjustment of Clothing	When a person is threatened and reacting to a threat, to retrieve his gun (or other weapon) quickly or unnoticed, an individual may remove or lift a layer or layers of clothing. The goal behind this movement is to allow clean access to the weapon.	X	-	-	X	-
Target Glance	Prior to reaching for a weapon or striking someone in a specific area, a person may quickly look at that spot seconds or milliseconds before the act. It is done to orient his body to the action to be performed or assess and evaluate the action he is about to take. For example, a suspect may look at a police officer’s gun just before he attempts to grab the weapon from the officer’s holster or he may glance at the exact location of a hidden weapon on his person or in his immediate vicinity prior to reaching for it. The target glance focuses on something that the individual wants or needs, in the moment before he moves to get it.	X	-	-	X	-

Appendix F: General Contraband⁹

Behavior	Description	Gun	Drug	Courier	FTO	Other
Security Feel	The security feel is associated with people carrying items that they believe have value and are concerned about losing. The individual will repeatedly touch the item of value (for example a firearm) to confirm that he still retains possession.	X	X	-	X	X
Blading	Blading can be separated into two objectives. The first is concealing the objects from visual detection. This is done by turning one's body 90 degrees, so that the body is between the weapon (or drugs) he is carrying and law enforcement (or any threat). Blading may also be done to facilitate drawing a weapon or fighting.	X	X	-	X	-
Hands in Pockets	Person's carrying items of contraband may place his hands in his pockets to hold, maintain control of, and access to the item. This is more than a tap (i.e., a security feel) and involves a longer duration in contact with the drugs. Occurs for both weapons and drugs.	X	X	-	X	-
Hiding Object	A person who hides an object upon police approach or from those present. This is a potential indicator of some form of contraband (or something that individual does not want the police or others to see).	-	X	-	X	-

⁹ In Appendices A-I we identify the sourcing for each behavioral indicator. The sources for the behavioral indicators are listed below.

- Gun - AMX Report on the Behavioral Indicators of Illegal and Legal Gun Carrying;
- Drug - AMX Report on the Behavioral Indicators of Drug Carrying in Open Spaces;
- Courier - AMX Report on the Behavioral Indicators of Drug Couriers in Airports;
- FTO - Transcripts from the AMX Field Training Officer Seminar conducted in JDLR Phase II; and
- Other - Publically available documentation and other existing research.

Appendix G: Behavioral Indicators of Gun Carrying¹⁰

Behavior	Description	Gun	Drug	Courier	FTO	Other
Adjusting Pants/Belt	When a person is sitting, stands up, or gets out of a car and he has a gun on his belt, he will often times “adjust” his belt and the gun on it to account for any shift. This adjustment can also take the form of a person sliding the hands from the lower hip to the belt and pulling up the belt (much like an exaggerated “hitching” of a person’s belt). This behavior is especially visible when a person is moving from a sitting to a standing position, when the offender may hold the weapon against his body as he stands up. This can be a subconscious behavior. Where a person holds is dependent upon the location of the weapon.	X	-	-	-	X
Shortened/ Disrupted Stride	When a gun is tucked into a pocket or the front waistband, it may hinder leg movements on that side of the body or cause the offender to have his right stride shorter than the left. Instead of having a shortened stride a person carrying an illegal gun may also have a disrupted stride, meaning that the gait of his walk will be off in some recognizable way. This behavior may be caused by the individual attempting to either conceal the weapon or limiting its movement so as not to drop it. The disrupted stride does not only involve forward movement, but may also involve a side to side motion which could be described as a “waddle”. The disrupted stride may also be	X	-	-	X	X

¹⁰ In Appendices A-I we identify the sourcing for each behavioral indicator. The sources for the behavioral indicators are listed below.

- Gun - AMX Report on the Behavioral Indicators of Illegal and Legal Gun Carrying;
- Drug - AMX Report on the Behavioral Indicators of Drug Carrying in Open Spaces;
- Courier - AMX Report on the Behavioral Indicators of Drug Couriers in Airports;
- FTO - Transcripts from the AMX Field Training Officer Seminar conducted in JDLR Phase II; and
- Other - Publically available documentation and other existing research.

	visible as a brief interruption or change in the rhythm of a person's stride over a longer distance. This change in the pattern of the walk would be to readjust the weapon.					
Repositioning Gun	When the gun shifts, offenders may perform a circular or lifting movement with his hand, the palm of the hand, or forearm to adjust the gun's position in order to make it easier to draw the weapon.	X	-	-	-	X
Shortened/ No Arm Swing	When a person is carrying a gun in or out of a holster at his waist, he may hold his arm or elbow against the weapon to control it and to keep it from falling out of his waistband. Holding the gun against the body in this way could also keep a person's arm from moving at all. This lack of arm movement has also been described as a dead arm.	X	-	-	X	X
Picking	Another reason a person may adjust his clothing is to ensure that the weapon is covered or concealed by clothing. Often times this behavior is called "picking", when someone will grab his shirt with two fingers and pull it away from the weapon and the body.	X	-	-	-	X
Clothing Fiber Stress	If a gun is concealed inside a coat pocket particularly one constructed of a thin fabric, the weight of it pulling down on the jacket may create a crease or fold. This visible line runs vertical from the shoulder or chest area directly to the pocket precisely over the gun. If there is nothing weighting down the other side of the jacket, it becomes more distinct in comparison.	X	-	-	-	X
Inappropriate clothing	A person carrying a firearm may attempt to conceal the weapon by wearing heavier or bulkier clothing, which may stand out in warmer weather or when that clothing would not normally be worn.	X	-	-	X	X
Bulge under	A person carrying a firearm and concealing it	X	-	-	-	X

Clothing	under clothing may have a bulge in his clothing at the location of the firearm.					
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Appendix H: Verbal Behaviors¹¹

Behavior	Description	Gun	Drug	Courier	FTO	Other
Deflection	While being interviewed by law enforcement an individual attempts to avoid or adjust the questions they are being asked or tries to buy time to think of a deceptive response. Deflection can involve repeating questions back to interviewer, answering questions with a question, or answering with unrelated information.	-	-	X	X	-
Conversational Dead Stop	After issuing a command, providing information back which was not requested. For example, asking “why?” is an attempt to buy time or regain control of the situation. It is buying time to finish or form a plan (Phase 4 of sympathetic stress reflex). Involves the inability or refusal to be placed in a position of tactical disadvantage.	-	-	X	X	X
Deep Sighing	A deep sigh by an individual may indicate a number of emotions ranging from a person who is about to confess or tell the truth, or is a sign of relief, or he is getting annoyed, or are tired of telling his story and wants the encounter to be over.	-	-	X	-	-
Can’t Answer A Question	While being interviewed by law enforcement, an individual may be unable or reluctant to answer a question that he should have an answer to, like not knowing his zodiac sign or age. He may also be reluctant to answer whether or not he is carrying drugs or money. This could involve someone not providing the	-	-	X	X	-

¹¹ In Appendices A-I we identify the sourcing for each behavioral indicator. The sources for the behavioral indicators are listed below.

- Gun - AMX Report on the Behavioral Indicators of Illegal and Legal Gun Carrying;
- Drug - AMX Report on the Behavioral Indicators of Drug Carrying in Open Spaces;
- Courier - AMX Report on the Behavioral Indicators of Drug Couriers in Airports;
- FTO - Transcripts from the AMX Field Training Officer Seminar conducted in JDLR Phase II; and
- Other - Publically available documentation and other existing research.

	same answer as he did to the same question earlier in the conversation.					
Conversational Declarations	When a subject makes a verbal indication to take a specific action (such as fighting, running etc.). Whenever someone is taking an order and gives the exact opposite in an answer. Involves the inability or refusal to be placed in a position of tactical disadvantage. Have formulated a plan (to fight or flee) and are putting it into action (Phase 5 of sympathetic stress reflex).				X	X

Appendix I: Group Related Behaviors¹²

Behavior	Description	Gun	Drug	Courier	FTO	Other
Peacocking	Subjects (often when in a smaller group) will puff out their chest and begin to strut. Also involves clenching of the fist(s), popping out of the vein on the forehead. Could also be a signal to others that they are preparing to fight. Respondents indicate this is more prominent when there are more than three people.	-	-	-	X	-
Distraction	Specific subjects operating in a group may call attention to themselves (by acting aggressively or loud/obnoxious) in order to get attention away from a person who may be carrying an item of contraband or be in trouble for some other reason.	-	-	-	X	-
Acknowledgement Glance	Certain individuals may be working together, but want to avoid being seen or detected as part of that group. When moving through specific closed environments, members of the group may consciously but surreptitiously look at the others to ensure they are together. This is a quick glance to acknowledge that he has seen the person he is traveling with.	-	-	X	-	-
Disengagement	After the acknowledgement, the leading person does not consciously make contact with his co-traveler again. He will often walk away from the other person so that he can follow at a distance.	-	-	X	-	-

¹² In Appendices A-I we identify the sourcing for each behavioral indicator. The sources for the behavioral indicators are listed below.

- Gun - AMX Report on the Behavioral Indicators of Illegal and Legal Gun Carrying;
- Drug - AMX Report on the Behavioral Indicators of Drug Carrying in Open Spaces;
- Courier - AMX Report on the Behavioral Indicators of Drug Couriers in Airports;
- FTO - Transcripts from the AMX Field Training Officer Seminar conducted in JDLR Phase II; and
- Other - Publically available documentation and other existing research.

Verification	A very short involuntary glance to ensure that the person is still following behind him.	-	-	X	-	-
Covert Looks	Using natural environment to verify someone is there. It often involves a “stare like” look of a longer duration and intensity than an acknowledgement glance. It may involve making turns and when possible looking over his shoulder at the person following. This could also involve looking at reflections instead of looking directly at the other person.	-	-	X	-	-
Snaking	One person follows the other at a distance while they weave through the airport, often towards the baggage claim. They usually never acknowledge each other, but they mimic movements. When moving, the person in front may appear to be walking slightly slower than the crowd. This is to ensure the person following does not lose sight.	-	-	X	-	-
Interjection	A person does not normally interject in a police interdiction. Someone who does this is likely a threat or trying to cause a distraction.	-	-	-	X	-

Appendix J: FTO Seminar Codebook

Variable	Description	Values
Decision Point	Status of decision point.	IO – Initial observation DP# - Iteratively increasing numeric variable (DP1, DP2, DP3 etc.)
Source	Source of information/decision point.	PD – Participant Debrief Video - Video of Role-play VT – Video Transcript SD - Scenario Description
Officer	The specific officer making the decision.	O1 – Officer 2 O2 – Officer 1 Both – both officers UNK – unknown NA – Not applicable
Relevant Subject	The focus of the particular decision point/observation.	SUBJECT 1 – Subject 1 SUBJECT 2 - Subject 2 SUBJECT - Subject 3 and up All Subjects UK – Unknown NA – Not Applicable
Decision Level	The type of decision being made; is based upon the collection of cues, interpreting what they mean, and taking an action.	L1 – collecting clues in the environment (such as continuing an interview) L2 – Making an assessment based on processing of cues L3 – Deciding on taking a specific actions/Predicting future action

		Act – Make a specific action
Officer Action	What action or task that the officer is implementing or doing.	Entered in as free text
Line #/Time	The line number of the transcript associated with this behavior if pulled from the transcript/or time if from the video.	Line: Entered in as a number/numeric variable. Time: Entered as time variable Minute Minute:Second Second (MM:SS)
Goal	The rationale or the goal behind undertaking a specific action.	Entered in as free text
Stage	This variable refers to the stage of the interdiction.	Initial Observation Pre-planning Approach Interaction
Threat	This variable refers to the level of subjective threat perceived by the officer. This is an interactive variable because it can be both a factor and part of the assessment.	Not Determined Low Risk Medium Risk High Risk
Compliance	The overall perception by the officers of how compliant the subjects are being during the interaction.	Compliant Non-compliant
Demeanor	What is the given emotional state of the subject at a given point in time; can also be referred to as the emotional state of the subject.	Entered in as free text
Baseline	Baseline refers to a fit/no-fit based on the available or perceived interpretation of the environment.	Fit No-Fit
Speech Content	Treat as “Other” Category, for items that do not fit into other categories.	Entered in as free text
Coherences	Answers to questions do not make sense.	Entered in as free text

Inconsistencies	Inconsistencies between statements or statements and other evidence.	Entered in as free text
Contradictions	Statements contradict available knowledge/evidence.	Entered in as free text
Spontaneous Admissions	Statement is spontaneous and unrehearsed rather than coerced and practiced.	Entered in as free text
Conversational Peculiarities	The way in which an individual provides the information.	Entered in as free text
Speech Characteristics	The characteristics of speech; how the information was provided.	Entered in as free text
Rate	How fast or slow a person speaks.	Entered in as free text
Pitch	How high versus how low a person's voice sounds.	Entered in as free text
Hesitations	A delay in speaking such as silent pauses or repetitions in speech.	Entered in as free text
Duration/Frequency of Pauses	The pause time in speaking and how often it occurs.	Entered in as free text
Accent	A manner of pronunciation peculiar to a particular individual, location, or nation.	Entered in as free text
Shift in Language	Shifts to speaking one language to another.	Entered in as free text
Facial Cues	Refers to movements of the face and head, includes any movement of the body or face from the neck up.	Entered in as free text
Macro-expressions	An expression of emotion that appears and remains on the face for several seconds.	Entered in as free text
Micro-expressions	An expression of emotion that appears and disappears from the face very rapidly.	Entered in as free text
Head movement	Movement of the whole head	Entered in as free text
Eyes	Direction of the eyes, meaning who the subject is looking at.	Entered in as free text
Group Dynamics	The nature of the group involved in the encounter (if one is present). Relates to those	Entered in as free text

	individuals who are participants or present and have the potential to become participants.	
Role of Members	The role each member of the group occupies.	Entered in as free text
Verbal Interplay/Interaction	What members of the group are saying to one another.	Entered in as free text
Non-verbal Interaction	The non-verbal interaction occurring between group members. This could include subjects moving towards or away from one another or facing one another.	Entered in as free text If occluded by video, identify as occluded
Emotion (anger/anxiety)	The emotional state of the group.	Entered in as free text
Presence of Special Needs Individuals	To the extent special populations are present, certain police tactics can cause harm to special populations.	Bystanders Present Children Present Older Persons Present
Stature of Group Members	Evaluating the group members to the extent they are or could be a threat.	Entered in as free text
Subject Movement	The movement of the subject within the given space.	Entered in as free text
Proximity/Distance	The orientation and location of individuals involved in the interdiction. This is a dynamic factor because it involves people moving around and where they are in relation to one another throughout the contact. This is a dynamic factor.	Entered in as free text
Officer-to-Officer	The distance and orientation/facing direction of the officers in relation to one another.	Entered in as free text
Officer-to-Subject	The distance and orientation/facing direction of the officers in relation to the subjects.	Entered in as free text
Subject-to-Subject	The distance and orientation/facing direction of the subjects in relation to one another.	Entered in as free text
Body Position	This refers to the behaviors in the body, independent of those exhibited in the face. It can refer to the whole body itself or movement	Entered in as free text

	of specific portions of the body. This is a dynamic factor.	
Orientation	The direction in which the individual/subject is facing.	Entered in as free text
Stance	The way in which someone stands; a person's posture.	Entered in as free text
Arms	The position and movement of the arms, independent of the hands and the shoulders.	Entered in as free text
Hands	The position and movement of the hands and thumbs, independent of the arms.	Entered in as free text
Feet	The position and movement of the feet.	Entered in as free text
Shoulders	The position and movement of the shoulder, independent of the arms and the stance/orientation. Includes shrugs.	Entered in as free text
Hips	The position and movement of the hips, independent of stance/orientation.	Entered in as free text
Rules of Engagement	The policies/procedures/regulations which dictate officer behavior or actions.	Entered in as free text
Criminal Law	Federal, State, local laws and codes/ordinances which govern Police authority or mandate responsibility.	Entered in as free text
Governing Authority	Policies or procedures which dictate Police response protocols, arrest/citation authority.	Entered in as free text
Agency	Policies or procedures formal or informal which dictate officer conduct in a given scenario.	Entered in as free text
Agency Tactical Doctrine	Formal or informal policies or procedures which dictate use of force, lethal and less than lethal deployment and usage.	Entered in as free text
Clothing	The type and nature of the clothing which a subject is wearing during the interdiction. Refers to both subject, group, and potentially to bystanders.	Entered in as free text

Type of Clothing	The clothing being worn by those present.	
Clothing Baseline	Clothing inconsistent with weather as in clothing which is heavier/more bulky than weather dictates.	Entered in as free text
Concealment	Clothing which would facilitate the concealment of items of contraband.	Entered in as free text
Branding	Clothing which communicates a criminal message (i.e., adjudicated gang attire).	Entered in as free text
Objects	Objects carried by subject.	Entered in as free text
Subject Information	What is known about the subject prior to the interdiction; who the subject is.	Entered in as free text
Criminal History	Prior knowledge about the criminal background of the subject. Could include history of violence, weapons carrying/use, or other criminal acts.	Entered in as free text
Prior Knowledge	Officer's personal knowledge about the subject from interactions; what the officer believes to be true about the individual. Could include history of violence, weapons carrying/use, and other criminal history.	Entered in as free text
Nature of Contact	The reason for the contact which brings the officers in contact with the subject.	Entered in as free text
Nature of a Criminal Offense	The type of criminal offense, if any.	Entered in as free text
Method of Contact	The method of contact with the subject; could be proactive or reactive contact.	Proactive – contact initiated by officers Reactive – contact initiated upon an outside request
Time Since Event	When the event occurred or will occur.	Event Occurring Event Has Occurred Event May Occur in the Future
Number of Subjects	Number of people present at the contact.	Entered in as count/number

Physical Environment	The nature of the physical location in which the encounter occurs. This is a static factor.	
Topography	The natural, physical, and man-made features of an area (i.e., Commercial/Residential/Mixed Use etc.).	Entered in as free text
Physical Barriers	Presence of physical barriers that provide cover or concealment.	Yes No
Weather	Weather conditions at the time of encounter.	Entered in as free text
Lighting	Lighting conditions at the time of the encounter.	Entered in as free text
Security Level	Security Level of Location	Open location – no security Closed location – pass through security to enter
Time of Day	The time of day of the encounter.	Entered in as free text
Human Environment	The nature of the individuals present who are non-participating in the encounter; could be described as bystanders. This is a dynamic factor.	Entered in as free text
Human Density	The number of bystanders present in the area during an interdiction.	Entered in as free text
Bystander Demeanor	The general demeanor of the persons present.	Entered in as free text
Police/Community Relationship	The nature of the relationship between the community and the police.	Entered in as free text
Prior Knowledge of Area	Officer knowledge in terms of a specific area and the kind of individuals who are present in that area.	Entered in as free text

